

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Huang Xiaolong, and Wang Xianghan		NDS 204,1 (2025)	30-Jun-2023
$Q(\beta^-) = -9181.1 \text{ 4; } S(n) = 12891 \text{ 16; } S(p) = 6473.0 \text{ 11; } Q(\alpha) = -3364.1 \text{ 5}$ 2021Wa16 $Q(\epsilon) = 1619.5 \text{ 7, } S(2n) = 23136.3 \text{ 7, } S(2p) = 11272.8 \text{ 5}$ (2021Wa16). ^{62}Zn produced and identified in deuteron and ^3He bombardment of Cu (1948Mi12), who also measured half-life. Other reactions: 1997Fo03: $^{62}\text{Ni}(\pi^+, \pi^-)$, $E = 140\text{--}230 \text{ MeV}$, measured $\sigma(\theta)$. 1993Be02: $^{62}\text{Ni}(\pi^+, \pi^-)$, $E = 293.4 \text{ MeV}$, measured $\sigma(\theta)$. 1979ShZN: $^{58}\text{Ni}(^{14}\text{N}, ^{10}\text{B})$, $E = 155 \text{ MeV}$, measured $\sigma(\theta)$, DWBA. 1977Gr03: $^{58}\text{Ni}(\alpha, p)$, $E = 6.26\text{--}9.12 \text{ MeV}$ in steps of 20 keV, excitation functions measured to find resonances of large α width. The spectra show a large number of alpha-particle resonances, but their energies are not listed. Differential cross sections were measured at three angles. No evidence was found for levels with very large α widths; observed α width was concentrated in a small number of states, in qualitative agreement with the predictions of a weak coupling shell model. 1976Ca06: $^{64}\text{Zn}(\gamma, 2n)$, $E = 8\text{--}30 \text{ MeV}$; measured σ, GDR width. 1970Co25: $^{64}\text{Zn}(\gamma, 2n)$, $E = 12\text{--}40 \text{ MeV}$; measured σ, GDR. Mass measurement: 2006Er03 (Penning trap method). 2013Zu01: measured quadrupole interaction frequencies for a ^{62}Zn probe using on-line perturbed angular correlation (PAC) and positron annihilation spectroscopy (PAS), with 30-keV radioactive ^{62}Zn beam produced at the HI-13 tandem accelerator of the China Institute of Atomic Energy (CIAE). 2019Go35: $^{30}\text{Si}(^{32}\text{Si}, X)^{62}\text{Zn}^*$, $E = 75, 86, 98, 110 \text{ MeV}$; measured E_γ, I_γ, $\gamma\gamma$-coin, $n\gamma$-coin for analysis of decay of compound nucleus. Theoretical nuclear structure calculations: 2022Mi15: calculated energies of low-lying 0^+, 2^+, 4^+ states, and $B(E2)$. 2022Ko04: calculated ground state energy, charge rms radius using coupled cluster (CC) and ab-initio density functional theory. 2022Yo05: calculated excitation energies of the high-spin rotational bands, moments of inertia of superdeformed bands, quadrupole deformation, and possible occurrence of hyperdeformed states using cranked Skyrme-Khon-Sham calculations. 2018Ja02: calculated levels, J^π, and $B(E2)$ using IBM-3. 2016Ra37: calculated levels, occupation numbers, $B(E2)$ using shell model with NuShellX code. 2016Sa34: calculated levels, J^π, HF energies, quadrupole deformation, triaxiality parameter, neutron and proton s.p. alignments using no-core-configuration-interaction (NCCI) model. 2005Ji06: calculated binding energy, radius, deformation using relativistic mean-field approach. Additional information 1.				

 ^{62}Zn Levels

General specify configurations are listed in terms of valence holes or particles: $[p_1(\pm)p_2, n_1(\pm)n_2]$, where p_1, n_1 =number of proton or neutron holes in $1f_{7/2}$ orbital; p_2, n_2 =number of neutron or proton particles in $1g_{9/2}$ orbital, relative to a closed ^{56}Ni core. The $(\pm)$ notation refers to $\alpha = +1/2$ and $\alpha = -1/2$ signature.

Note that: configurations for bands are from Fig. 21 in [2012Ge04](#) in $^{28}\text{Si}(^{36}\text{Ar}, 2p\gamma)$, $^{40}\text{Ca}(^{28}\text{Si}, \alpha 2p\gamma)$ data with the following nomenclature based on cranked Nilsson-Strutinsky formalism, and relative to ^{56}Ni ($N=Z=28$) core:

$\pi[(1f_{7/2})^{-p_1}(fp)^{p_3}(1g_{9/2})^{p_2}]$ abbreviated as $\pi[p_1, p_2(\pm)]$, where $p_3 = 2 + p_1 - p_2$, + for $\alpha = +1/2$, - for $\alpha = -1/2$ for odd number of fp protons p_3 .

$\nu[(1f_{7/2})^{-n_1}(fp)^{n_3}(1g_{9/2})^{n_2}]$ abbreviated as $\nu[n_1, n_2(\pm)]$, where $n_3 = 4 + n_1 + n_2$, + for $\alpha = +1/2$, - for $\alpha = -1/2$ for odd number of fp neutrons n_3 .

Cross Reference (XREF) Flags

A	^{62}Ga ϵ decay (116.123 ms)	H	$^{58}\text{Ni}(^{16}\text{O}, ^{12}\text{C})$	O	$^{63}\text{Cu}(p, 2n\gamma)$
B	$^{28}\text{Si}(^{36}\text{Ar}, 2p\gamma)$, $^{40}\text{Ca}(^{28}\text{Si}, \alpha 2p\gamma)$	I	$^{60}\text{Ni}(^3\text{He}, n)$	P	$^{64}\text{Zn}(p, t)$
C	$^{32}\text{Si}(^{30}\text{Si}, X): \text{GDR}$	J	$^{60}\text{Ni}(\alpha, 2n\gamma), (^3\text{He}, n\gamma)$	Q	$^{12}\text{C}(^{63}\text{Zn}, ^{62}\text{Zn}\gamma)$
D	$^{58}\text{Ni}(^6\text{Li}, pn\gamma)$	K	$^{60}\text{Ni}(^{12}\text{C}, ^{10}\text{Be})$	R	$^{58}\text{Ni}(^4\text{He}, x\gamma): \text{GDR}$
E	$^{58}\text{Ni}(^6\text{Li}, d), (\text{POL } ^6\text{Li}, d)$	L	$^{60}\text{Ni}(^{16}\text{O}, ^{14}\text{C})$	S	$^{12}\text{C}(^{63}\text{Ga}, ^{62}\text{Zn}'\gamma)$

		F ⁵⁸ Ni(⁷ Li,t) G ⁵⁸ Ni(¹² C, ⁸ Be)		M ⁶¹ Ni(³ He,2nγ) N Coulomb excitation			
E(level) [†]	J ^π #	T _{1/2}	XREF		Comments		
0.0 [@]	0 ⁺	9.197 h 20	AB	DEFGHIJKLMNOPQ S	%ε+%β ⁺ =100 T _{1/2} : weighted average of 9.186 h 13 (1982Gr10, from decay curve for two γ rays followed over 8 to 11 half-lives, uncertainty is stated by authors as statistical only, evaluators increased it to 0.020 h to account for possible systematic uncertainty); 9.231 h 20 and 9.23 h 6 (1972Cr02, γ counting, average of measurements for four γ rays of 260, 394, 548 and 597 keV at two different energies of E(³ He) beam in ⁶⁴ Zn(³ He,X) reaction; 9.34 h 4 and 9.39 h 5 at two other beam energies not used in the averaging procedure because of low counting rates and systematically higher T _{1/2} values); 9.3 h 2 (1967Ro01, γ decay curve, but no details); 9.2 h 1 (1967An01, from decay curves for several conversion lines, but no other details); 9.13 h 3 (1964Ru06, γγ-coin counting method, eight runs, but no other details); 9.3 h 2 (1954Nu27, γ counting, but no details). Reduced χ ² =1.5. Others: 8.4 h 2 (1953Ku08, value from a composite decay curve of several activities), 9.33 h (1950Ha65, from positron decay curve), 9.5 h (1948Mi12, from electron counting using GM counter). Measured isotope shift δ _y ^{68,62} =−239.5 MHz 11(stat) 99(syst) (2019Xi07, collinear laser spectroscopy, COLLAPS at ISOLDE-CERN facility). Measured change in rms charge radius δ<r ² > ^{68,62} =−0.493 fm ² 3(stat) 52(syst) (2019Xi07, collinear laser spectroscopy, COLLAPS at ISOLDE-CERN facility).		
953.86 [@] 5	2 ⁺	2.93 ps 21	AB	DEFGHIJKLMNOPQ S	μ=+0.74 20 (2002Ke02,2020StZV) μ: from g factor=+0.37 10 (2002Ke02) using projectile Coulomb excitation in inverse kinematics and transient magnetic fields. Data reanalyzed in 2010Mo14 with the same result of g=+0.37 10. J ^π : E2 γ to 0 ⁺ . T _{1/2} : weighted averaged mean lifetime τ=4.23 ps 30 from τ=4.2 ps 7 in (⁶³ Zn, ⁶² Zn) (2007St16); 4.3 ps 3 in Coulomb excitation (2002Ke02); 4.2 ps 3 in (⁶ Li,pnγ) (1981Wa09); and 2.5 ps +10−20 in (α,2nγ) (1977BrYO).		
1804.66 ^{&} 6	2 ⁺	2.63 ps 42	AB DE	H JKLMNOPQ S	J ^π : E2 γ to 0 ⁺ .		
2186.03 [@] 10	4 ⁺	0.53 ps +24−14	B DE GH JK	MNOP S	J ^π : ΔJ=2, E2 γ to 2 ⁺ ; L(p,t)=4. T _{1/2} : from DSAM in (⁶ Li,pnγ). Other: 1.0 ps 7 and ≥0.35 ps from DSAM in (α,2nγ).		
2342.37 7	0 ⁺		A	E HI M P	XREF: E(2360)I(2390) J ^π : L(⁶ Li,d)=0; γγ(θ) in ⁶² Ga ε decay. L(p,t)=0 for 2330 10 level in 1974Hi05, and for 2380 20 level in 1973Ku05. L(³ He,n)=(0) for 2390 30 level. L(p,t)=2 for 2342.2 level in 2019Le11 is in disagreement.		
2384.49 ^a 13	3 ⁺	1.7 ps 11	B D	J MNOP S	J ^π : ΔJ=1, M1+E2 γ to 2 ⁺ ; not 1 from excitation function. T _{1/2} : >0.7 ps from DSAM, <2.8 ps from RDM in (⁶ Li,pnγ).		
2743.55 ^{&} 13	4 ⁺	2.36 ps 21	B DE H J	M OP	J ^π : ΔJ=2, E2 γ to 2 ⁺ ; ΔJ=0, M1+E2 γ to 4 ⁺ ; L(p,t)=4. T _{1/2} : RDM in (⁶ Li,pnγ).		
2803.24 9	2 ⁺	<0.167 ps	A	E H LM P S	XREF: E(2840) J ^π : L(⁶ Li,d)=2. L(p,t)=2. T _{1/2} : 0.146 ps 21 (effective T _{1/2} from DSAM in (³ He,2nγ), considered as an upper limit). E(level): identified as one component of one-phonon mixed-symmetry 2 ⁺ state (2010Al28).		

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π #	T _{1/2}	XREF			Comments
2883.86 24	2 ⁺	<0.153 ps	A	M	P	J ^π : $\gamma\gamma(\theta)$ in ($^3\text{He}, 2n\gamma$); L(p,t)=2. T _{1/2} : 0.132 ps 2I (effective T _{1/2} from DSAM in ($^3\text{He}, 2n\gamma$), considered as an upper limit). E(level): identified as second component of one-phonon mixed-symmetry 2 ⁺ state (2010A128).
2961.56 10	(1 ⁺)		A			J ^π : β feeding (log ft=7.44) from 0 ⁺ parent; 2962.3 γ to 0 ⁺ , g.s.
3046.40 11	0 ⁺		A		P	J ^π : L(p,t)=0. (2093 γ)(954 γ)(θ) in ε decay (2020Ma59) consistent with 0 ⁺ , but also allows J=1,2,3,4.
3148.02 21	(0 ⁺ , 1 ⁻ , 2 ⁺)		A		P	XREF: P(3146.21) J ^π : γ to 2 ⁺ ; γ from (1 ⁺); population in (p,t) disfavors unnatural parity states of J ^π =1 ⁺ , 2 ⁻ , 3 ⁺ .
3180.90 7	1 ⁽⁺⁾		A			J ^π : (2227 γ)(954 γ)(θ) in ε decay (2020Ma59) allows J=1,2,3,4; γ to 0 ⁺ and β feeding (log ft=5.97) by Gamow-Teller transition from 0 ⁺ parent does not permit J=2,3,4.
3181.1 3	2 ⁺			g I l	P	XREF: I(3186)
3209.79 20	4 ⁺	<0.285 ps	B De g	klM	P	J ^π : L(p,t)=2; L($^3\text{He}, n$)=2+(3) for 3186 30 level. XREF: k(3310) 2010A128 in ($^3\text{He}, 2n\gamma$) identify 3209, 4 ⁺ state as a candidate for a two-phonon mixed symmetry state. However, non-observation of expected transition to the one-phonon mixed symmetry 2 ⁺ state at 2803 keV does not allow a confirmed identification of such an excitation. E(level): within 2 σ uncertainty, a 3310 50 level in ($^{12}\text{C}, ^{10}\text{Be}$) may correspond to a mixture of 3209, 4 ⁺ and 3223, 3 ⁻ levels; the same spin-parity assignments were made in this reaction from comparison of $\sigma(\theta)$ with DWBA calculations, systematic trends and shell-model calculation with configuration= $\pi f_{5/2}^2$. J ^π : L(p,t)=4; $\gamma\gamma(\theta)$ in ($^3\text{He}, 2n\gamma$) rules out 3 ⁻ , based on χ^2 for $\gamma\gamma(\theta)$ for 4 $\rightarrow$ 4 $\rightarrow$ 2 and 3 $\rightarrow$ 4 $\rightarrow$ 2 γ cascades; L($^6\text{Li}, d$)=3,4 if the 3190 level corresponds to 3209.9 and 3223.5 levels. J ^π =3 ⁻ assignment in ($^{36}\text{Ar}, 2p\gamma$), is in disagreement. T _{1/2} : 0.250 ps 35 (effective T _{1/2} from DSAM in ($^3\text{He}, 2n\gamma$), considered as an upper limit).
3223.50 40	3 ⁻		e gH	klM	P S	XREF: H(3190)k(3310) J ^π : L(p,t)=3; L($^6\text{Li}, d$)=3,4 if the 3190 level corresponds to 3209.9 and 3223.5 levels. See also comment for 3210, 4 ⁺ level.
3340.51 30	(0 ⁺ , 1, 2 ⁻)		A			J ^π : β feeding (log ft=7.83) from 0 ⁺ parent; 2386 γ to 2 ⁺ .
3374.24 9	1 ⁻		A		P	J ^π : L(p,t)=1; 3374.1 γ to 0 ⁺ , g.s.
3406 2					P	
3424.17 11	(1 ⁺)		A		P	J ^π : β feeding (log ft=6.59) from 0 ⁺ parent; 3425.3 γ to 0 ⁺ , g.s.
3443 2					P	
3474 2	2 ⁺		E		P	J ^π : L(p,t)=2.
3561.0 5	(0 ⁺ , 1, 2 ⁻)		A			J ^π : β feeding (log ft=7.75) from 0 ⁺ parent; 2607.1 γ to 2 ⁺ .
3571 2					P	
3583 2					P	J ^π : L(p,t)=(2), but with a poor fit to DWBA for a 3590 10 level in 1974Hi05.

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π [#]	T _{1/2}	XREF					Comments
3586.56 ^a 19	5 ⁺	0.63 ps +63-21	B	DE	J	M	O	XREF: E(3540) J ^π : γ(θ) and excitation function, (⁶ Li,pnγ). T _{1/2} : from DSAM in (⁶ Li,pnγ). J ^π : L(p,t)=2 for a 3640 10 level in 1974Hi05.
3621 2	2 ⁺						P	XREF: E(3680)
3689 2			E				P	J ^π : L(p,t)=(2) suggests (2 ⁺) for a 3690 20 level in 1972Fa08.
3690.6 9	(0 ⁺ ,1,2 ⁻)		A					J ^π : β feeding (log ft=7.80) from 0 ⁺ parent; 2736.7γ to 2 ⁺ .
3707.47 [@] 20	6 ⁺	0.23 ps +14-7	B	D	J	M	OP	J ^π : ΔJ=2, E2 γ to 4 ⁺ ; L(p,t)=6, but with poor fit to DWBA. T _{1/2} : from DSAM; weighted average of 0.17 ps +14-7 in (α,2nγ); and 0.25 ps +17-7 in (⁶ Li,pnγ) Other: 0.250 ps 35 (effective T _{1/2} from DSAM in (³ He,2nγ), should be considered as an upper limit).
3788 2							P	J ^π : L(p,t)=(1,2) suggests (1 ⁻ ,2 ⁺) for 3780 20 level in 1973Ku05.
3817 2	2 ⁺						P	J ^π : L(p,t)=2 suggests (2 ⁺) for 3830 10 level in 1974Hi05.
3862 2	0 ⁺						P	J ^π : L(p,t)=0.
3870 20	1 ⁻		E	HI				E(level): from (⁶ Li,d). J ^π : L(³ He,n)=L(⁶ Li,d)=1. L(³ He,n)=2 in 1974FiZB is in disagreement.
3884 2							P	
3936 6	0 ⁺						P	J ^π : L(p,t)=0 (2019Le11).
3994 6							P	J ^π : 0 ⁺ suggested by L(p,t)=0 for 4000 10 level in 1974Hi05, and for 3980 20 in 1972Fa08; also L=(0) for 4000 20 level in 1973Ku05.
4008.4 7	(0 ⁺ to 4 ⁺)		E	G		M		J ^π : γ to 2 ⁺ .
4021 6							P	
4021.79 9	(1 ⁺)		A					J ^π : probable allowed β feeding (log ft=5.82) from 0 ⁺ parent; 4021.6γ to 0 ⁺ , g.s.
4043.12 ^c 21	5 ⁻	0.69 ps +14-49	B	DE	HIJ	LM	O	XREF: E(4040)I(4020) J ^π : 3,5 from γ(θ), 1857.3γ, E1 from linear polarization to 4 ⁺ ; 5 from excitation function in (⁶ Li,pnγ); L(⁶ Li,d)=(5,1). T _{1/2} : from DSAM in (⁶ Li,pnγ). Other: 0.270 ps 42 (effective T _{1/2} from DSAM in (³ He,2nγ), should be considered as an upper limit).
4141 6							P	J ^π : L(p,t)=(4) suggests (4 ⁺) for 4090 10 level in 1974Hi05; L=0,4 suggests 0 ⁺ ,4 ⁺ for 4160 20 level in 1973Ku05; and L=4 suggests 4 ⁺ for 4170 10 level in 1972Fa08.
4170 50	(5 ⁻)				K			E(level): this level may correspond to the 4043, 5 ⁻ level. J ^π : from comparison of σ(θ) in (¹² C, ¹⁰ Be) to DWBA calculations, systematic trend and shell-model calculations.
4200 6							P	
4217.6 7					M		P	J ^π : L(p,t)=(3) suggests (3 ⁻) for 4220 10 level in 1974Hi05.
4230.7 6	(5 ⁺)		B					J ^π : 643.9γ to 5 ⁺ ; 1845.8γ to 3 ⁺ ; no γ to 2 ⁺ .
4257 6							P	
4282 6							P	
4306 6	5 ⁻						P	J ^π : L(p,t)=5.

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π #	T _{1/2}	XREF		Comments
4322.66 36	(1 ⁺)		A		J ^π : β feeding (log ft=6.78) from 0 ⁺ parent; 3368.1γ to 2 ⁺ ; possible 1982.1γ to 0 ⁺ .
4331 6				P	J ^π : L(p,t)=2 suggests 2 ⁺ for 4330 10 level in 1974Hi05; and L=3 suggests 3 ⁻ for 4320 20 level in 1973Ku05.
4347.91 & 19	6 ⁺	0.28 ps +28-14	B D	M	J ^π : ΔJ=2, E2 1604.3γ to 4 ⁺ ; 640.4γ to 6 ⁺ . T _{1/2} : from DSAM in (⁶ Li,pny). Other: 0.48 ps 13 (effective T _{1/2} from DSAM in (³ He,2nγ), should be considered as an upper limit).
4413 9				P	J ^π : L(p,t)=(4) suggests (4 ⁺) for 4380 20 level in 1974Hi05.
4432 9				P	
4447.87 6	(1 ⁺)		A		J ^π : probable allowed β feeding (log ft=5.47) from 0 ⁺ parent; 4447.7γ to 0 ⁺ , g.s.
4483 9	1 ⁻			P	J ^π : L(p,t)=1.
4518 9	6 ⁺		E	P	J ^π : L(⁶ Li,d)=6; L(p,t)=6.
4531.6 5	(0 ⁺ ,1,2 ⁻)		A		J ^π : β feeding (log ft=7.38) from 0 ⁺ parent; 3577.6γ to 2 ⁺ .
4535.28 23	5 ⁻		B	M	J ^π : ΔJ=2, E2 369.7γ from 7 ⁻ ; ΔJ=1, dipole 2349.8γ to 4 ⁺ .
4544 9			h	P	XREF: h(4540)
4552 9	0 ⁺		h	P	XREF: h(4540)
4576 9				P	J ^π : L(p,t)=0.
4590 9				P	J ^π : L(p,t)=(0) suggests (0 ⁺) for 4620 20 level in 1974Hi05; and L(p,t)=0 suggests 0 ⁺ for 4570 10 level in 1972Fa08.
4600 50	(6 ⁺ & 7 ⁻)			K	J ^π : from comparison of σ(θ) in (¹² C, ¹⁰ Be) to DWBA calculations, with preference for 7 ⁻ based on systematic trend, and configuration=νf _{5/2} ⊗vg _{9/2} .
4670 9				P	J ^π : L(p,t)=4 suggests 4 ⁺ for 4680 and/or 4670 levels in 1974Hi05.
4688 9				P	J ^π : L(p,t)=4 suggests 4 ⁺ for 4680 and/or 4670 levels in 1974Hi05.
4725 9	2 ⁺		h	P	XREF: h(4750)
4771 9	2 ⁺		h	P	J ^π : L(p,t)=2. XREF: h(4750)
4778 9			h	P	J ^π : L(p,t)=2. XREF: h(4750)
4869 9	5 ⁻			P	J ^π : L(p,t)=5 in 2019Le11. L(p,t)=(3,4) for 4860 30 level in 1974Hi05, and L(p,t)=(2) for 4860 20 level in 1972Fa08 are in disagreement.
4894 9			h	P	XREF: h(4890)
4894.35 9	(1 ⁺)		A	h	XREF: h(4890)
4904.73 ^c 23	7 ⁻	8.3 ps 35	B D	J M O	J ^π : probable allowed β feeding (log ft=5.69) from 0 ⁺ parent; 4894.2γ to 0 ⁺ , g.s. J ^π : ΔJ=1, E1 1196.8γ to 6 ⁺ ; ΔJ=2, E2 861.4γ to 5 ⁻ . T _{1/2} : from RDM in ⁵⁸ Ni(⁶ Li,pny). Other: 0.7 ps +7-3 from DSAM in (α,2nγ).
4905 11			h	P	XREF: h(4890)
4933 11				P	J ^π : L(p,t)=(2) suggests (2 ⁺) for 4910 30 level in 1974Hi05.
4960	(4 ⁺ ,5 ⁻)		E		J ^π : L(⁶ Li,d)=(4,5).
4997 11				P	
5018 11				P	J ^π : L(p,t)=4 suggests 4 ⁺ for 5020 20 level in 1973Ku05.

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π [#]	T _{1/2}	XREF		Comments
5040 <i>11</i>			h	P	XREF: h(5090)
5059 <i>11</i>	2 ⁺		Gh	P	XREF: h(5090)
5090	1 ⁻		E h		J ^π : L(p,t)=2. XREF: h(5090)
5115 <i>11</i>			h	P	J ^π : L(⁶ Li,d)=1. XREF: h(5090)
5123.88 ^e 26	7 ⁻	2.1 ps <i>14</i>	B D	K M	XREF: K(5190) J ^π : 1080.4γ ΔJ=2, E2 to 5 ⁻ ; 1416.8γ (E1) to 6 ⁺ . 7 ⁻ is also supported from comparison of σ(θ) in (¹² C, ¹⁰ Be) to DWBA calculations, systematic trend and shell-model calculations, assuming 5190 50 level in this reaction corresponds to 5124, 7 ⁻ level. T _{1/2} : <3.5 ps from RDM, >0.7 ps from DSAM in ⁵⁸ Ni(⁶ Li,pnγ).
5131.41 ^b 37	(6 ⁻)	>0.7 ps	B D	M	J ^π : ΔJ=1, (M1+E2) 1088.0γ to 5 ⁻ ; possible bandhead. T _{1/2} : from DSAM in ⁵⁸ Ni(⁶ Li,pnγ) for 5124+5132.
5143.70 ^a 31	7 ⁺	0.42 ps +21-14	B D	M	J ^π : ΔJ=2, E2 1557.2γ to 5 ⁺ ; 795.8γ to 6 ⁺ . T _{1/2} : from DSAM in ⁵⁸ Ni(⁶ Li,pnγ).
5151 <i>11</i>				P	
5194 <i>11</i>				P	
5210.92 7	(1 ⁺)		A		J ^π : probable allowed β feeding (log ft=5.33) from 0 ⁺ parent; 5210.6γ to 0 ⁺ , g.s.
5243 <i>11</i>	(0 ⁺)		h	P	XREF: h(5270) J ^π : L(p,t)=(0) for 5240 20 level in 1974Hi05 .
5282 <i>11</i>			h	P	XREF: h(5270)
5313 <i>13</i>			h	P	XREF: h(5270)
5350 30	0 ⁺		E I		E(level): from (³ He,n). J ^π : L(³ He,n)=0.
5358 <i>11</i>	3 ⁻		H	P	J ^π : L(p,t)=3.
5387 <i>11</i>	(4 ⁺)			P	J ^π : L(p,t)=(4) for 5370 20 level in 1972Fa08 .
5394.08 32	(1 ⁺)		A		J ^π : β feeding (log ft=6.30) from 0 ⁺ parent; 3051.6γ to 0 ⁺ .
5410 <i>11</i>				P	
5470			E		
5481.2 6	8 ⁺	0.28 ps +14-7	B D	M	J ^π : ΔJ=2, E2 1773.8γ to 6 ⁺ . T _{1/2} : from DSAM in ⁵⁸ Ni(⁶ Li,pnγ).
5507.65 22	(1 ⁺)		A		J ^π : β feeding (log ft=6.01) from 0 ⁺ parent; 5508.0γ to 0 ⁺ , g.s.
5560 20				P	
5583.77? 40	(1 ⁺)		A		J ^π : possible β feeding (log ft=7.10) from 0 ⁺ parent; possible 5583.5γ to 0 ⁺ .
5660 30	2 ⁺		HI		E(level): from (³ He,n). J ^π : L(³ He,n)=2.
5693.2 8	7 ⁽⁻⁾		B		J ^π : ΔJ=2, Q γ to 5 ⁻ ; ΔJ=1, D γ to 6 ⁺ .
5790 30			H		
5878.6 8	(7 ⁺ ,8 ⁺)		B		J ^π : 2171γ to 6 ⁺ ; 1083γ from 9 ⁽⁺⁾ .
5910.56 [@] 39	(8 ⁺)		B		J ^π : γ to 6 ⁺ ; band member.
5919.78 39	(1 ⁺)		A		J ^π : probable allowed β feeding (log ft=5.75) from 0 ⁺ parent; 5919.2γ to 0 ⁺ , g.s.
6030 30			H		
6081.55 ^c 33	9 ⁻	3.9 ps 32	B D		J ^π : ΔJ=2, E2 1176.7γ to 7 ⁻ ; band member. T _{1/2} : T _{1/2} <7 ps from RDM, and T _{1/2} >0.7 ps from DSA in ⁵⁸ Ni(⁶ Li,pnγ).

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π #	XREF		Comments
6113.50 ^b 34	(8 ⁻)	B	D	J ^π : ΔJ=2, Q γ to (6 ⁻); ΔJ=1, D+Q γ to 7 ⁻ ; band member.
6300 50	(8 ⁺)		K	J ^π : from comparison of σ(θ) in ($^{12}\text{C}, ^{10}\text{Be}$) to DWBA calculations, systematic trend and shell-model calculations.
6304.4 5	7 ⁽⁺⁾	B		J ^π : ΔJ=2, Q γ to 5 ⁺ ; γ to 7 ⁺ .
6330 30			H	
6342.8 ^d 6	(8 ⁻)	B		J ^π : ΔJ=1, D+Q γ to 7 ⁻ ; band member.
6360 20			P	
6.4×10 ³ 3			I	
6444.7 ^{&} 9	(8 ⁺)	B		J ^π : ΔJ=2, Q γ to 6 ⁺ ; band member.
6590 20			P	
6630.92 ^e 41	9 ⁽⁻⁾	B	D H	XREF: H(6610)
6964.6 ^a 6	9 ⁽⁺⁾	B		J ^π : ΔJ=2, Q γ to 7 ⁻ ; γ to 9 ⁻ ; band member.
7.00×10 ³ 15			G	J ^π : ΔJ=2, Q γ to 7 ⁺ ; γ to 8 ⁺ ; band member.
7024.2 8	(9 ⁻)	B		J ^π : ΔJ=(2), (Q) γ to 7 ⁻ ; ΔJ=1, D γ to 8 ⁺ .
7200			P	
7340 20			P	
7400			P	
7422.2 ^c 4	(11 ⁻)	B		J ^π : ΔJ=2, Q γ to 9 ⁻ .
7422.8 ^b 4	(10 ⁻)	B	D	J ^π : ΔJ=2, Q γ to (8 ⁻); ΔJ=1, D+Q γ to 9 ⁽⁻⁾ ; band member.
7444.8 ^f 5	9 ⁽⁻⁾	B		J ^π : ΔJ=0, D γ to 9 ⁻ ; γ to (8 ⁻); band member.
7499.1 7	(10 ⁺)	B		J ^π : ΔJ=2, Q γ to 8 ⁺ .
7550 20	(8 ⁺)		K P	XREF: K(7540)
				J ^π : from comparison of σ(θ) in ($^{12}\text{C}, ^{10}\text{Be}$) to DWBA calculations, systematic trend and shell-model calculations.
7738.9 ^d 5	(10 ⁻)	B		J ^π : ΔJ=2, Q γ to (8 ⁻); ΔJ=1, D+Q γ to 9 ⁽⁻⁾ ; band member.
7975.47 ^h 43	9 ⁽⁺⁾	B		J ^π : ΔJ=2, Q γ to 7 ⁺ ; ΔJ=0, D γ to 9 ⁻ ; band member.
7984.9 7	(10 ⁺)	B		J ^π : ΔJ=1, D γ to (9 ⁻); ΔJ=2, Q γ from 12 ⁺ .
8300 50	(6 ⁺)		K	J ^π : from comparison of σ(θ) in ($^{12}\text{C}, ^{10}\text{Be}$) to DWBA calculations, systematic trend and shell-model calculations.
8436.96 ^g 50	(10 ⁺)	B		J ^π : ΔJ=1, D γ to 9 ⁻ ; band member.
8479.91 50	(10)	B		J ^π : ΔJ=1, D γ to (11 ⁻); γ to 9 ⁻ .
8489.7 ^e 8	(11 ⁻)	B		J ^π : ΔJ=(2), (Q) γ to 9 ⁽⁻⁾ ; band member.
9024.4 ^b 5	(12 ⁻)	B		J ^π : ΔJ=2, Q γ to (10 ⁻); ΔJ=1, D+Q γ to (11 ⁻); band member.
9047.76 ^h 41	(11 ⁺)	B		J ^π : ΔJ=2, Q γ to 9 ⁽⁺⁾ ; ΔJ=1, D+Q γ to (10 ⁺); band member.
9083.4 ^f 5	(11 ⁻)	B		J ^π : ΔJ=2, Q γ to 9 ⁽⁻⁾ ; γ to (11 ⁻); band member.
9213.7 ^c 5	(13 ⁻)	B		J ^π : ΔJ=2, Q γ to (11 ⁻); band member.
9464.67 ^g 42	(12 ⁺)	B		J ^π : ΔJ=2, Q γ to (10 ⁺); ΔJ=1, D+Q γ to (11 ⁺); band member.
9681.7 ^d 11	(12 ⁻)	B		J ^π : ΔJ=2, Q γ to (10 ⁻); γ to (11 ⁻); band member.
9800			P	
9822.8 ^j 7	(12 ⁺)	B		J ^π : ΔJ=1, D γ to (11 ⁻); band member.
9865.7 9	(11 ⁺)	B		J ^π : ΔJ=0, D γ to (11 ⁻); γ from 13 ⁺ .
9959.73 ^h 49	(13 ⁺)	B		J ^π : ΔJ=2, Q γ to (11 ⁺); ΔJ=1, D γ to (12 ⁻); band member.
10241.7 ^m 6	(11 ⁺)	B		J ^π : ΔJ=1, D+Q γ to (10 ⁺); ΔJ=0, D γ to (11 ⁻); band member.
10300			P	
10374.58 ^g 49	(14 ⁺)	B		J ^π : ΔJ=2, Q γ to (12 ⁺); ΔJ=1, D+Q γ to (13 ⁺); band member.
10456.8 ^e 12	(13 ⁻)	B		J ^π : ΔJ=2, Q γ to (11 ⁻); band member.
10630.56 ^l 49	(12 ⁺)	B		J ^π : ΔJ=2, Q γ to (10 ⁺); ΔJ=1, D γ to (11 ⁻); band member.
10725.3 ^b 7	(14 ⁻)	B		J ^π : ΔJ=2, Q γ to (12 ⁻); ΔJ=1, D+Q γ to (13 ⁻); band member.
10800			P	

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π [#]	XREF	Comments
11177.76 ^m 49	(13 ⁺)	B	J ^π : ΔJ=2, Q γ to (11 ⁺); ΔJ=1, D+Q γ to (12 ⁺); band member.
11545.8 ^j 6	(14 ⁺)	B	J ^π : ΔJ=2, Q γ to (12 ⁺); ΔJ=1, D+Q γ to (13 ⁻); band member.
11651.1 ^o 6	(13 ⁻)	B	J ^π : ΔJ=2, Q γ to (11 ⁻); γ to (13 ⁻); band member.
11751.08 ^l 50	(14 ⁺)	B	J ^π : ΔJ=2, Q γ to (12 ⁺); ΔJ=1, D+Q γ to (13 ⁺); band member.
11786.6 ^h 9	(15 ⁺)	B	J ^π : ΔJ=2, Q γ to (13 ⁺); band member.
11961.0 ^g 6	(16 ⁺)	B	J ^π : ΔJ=2, Q γ to (14 ⁺); band member.
12046.1 ^d 15	(14 ⁻)	B	J ^π : γs to (12 ⁻) and (13 ⁻); band member.
12276.6 ⁱ 7	(15 ⁺)	B	J ^π : ΔJ=1, D+Q γ to (14 ⁺); band member.
12329.1 ⁿ 5	(14 ⁻)	B	J ^π : ΔJ=1, D+Q γ to (13 ⁻); band member.
12531.5 ^m 5	(15 ⁺)	B	J ^π : ΔJ=2, Q γ to (13 ⁺); ΔJ=1, D+Q γ to (14 ⁺); band member.
12812.3 ^k 6	(15 ⁻)	B	J ^π : ΔJ=1, D γ to (14 ⁺); band member.
12831.4 ^e 19	(15 ⁻)	B	J ^π : γ to (13 ⁻); band member.
12992.6 ^o 5	(15 ⁻)	B	J ^π : ΔJ=2, Q γ to (13 ⁻); ΔJ=1, D+Q γ to (14 ⁻); band member.
13156.2 ^j 7	(16 ⁺)	B	J ^π : ΔJ=2, Q γ to (14 ⁺); band member.
13230.9 ^l 6	(16 ⁺)	B	J ^π : ΔJ=2, Q γ to (14 ⁺); ΔJ=1, D+Q γ to (15 ⁺); band member.
13400		P	
13496.5 ^{‡s} 21	(15 ⁻)	B	J ^π : γ from (17 ⁻); band member.
13725.9 ⁿ 5	(16 ⁻)	B	J ^π : ΔJ=2, Q γ to (14 ⁻); ΔJ=1, D+Q γ to (15 ⁻); band member.
13782.3 ⁱ 7	(17 ⁺)	B	J ^π : ΔJ=2, Q γ to (15 ⁺); ΔJ=1, D+Q γ to (16 ⁺); band member.
13964.4 ^l 12	(16 ⁺)	B	J ^π : ΔJ=(2), (Q) γ to (14 ⁺).
14119.0 ^m 6	(17 ⁺)	B	J ^π : ΔJ=2, Q γ to (15 ⁺); ΔJ=1, D+Q γ to (16 ⁺); band member.
14321.9 [‡] 37		B	J ^π : γ from (17) suggests (15,16,17).
14343.8 ^l 12	(16 ⁻)	B	J ^π : ΔJ=(2), (Q) γ to (14 ⁻).
14429.8 ^x 18	(16 ⁺)	B	J ^π : ΔJ=(2), (Q) γ to (12 ⁻); band member.
14444.8 ^k 6	(17 ⁻)	B	J ^π : ΔJ=2, Q γ to (15 ⁻); ΔJ=1, D+Q γ to (16 ⁻); band member.
14489.4 ^r 10	(15 ⁻)	B	J ^π : ΔJ=1, D γ to (14 ⁺); γ to (13 ⁻); band member.
14540.8 ^o 6	(17 ⁻)	B	J ^π : ΔJ=2, Q γ to (15 ⁻); ΔJ=1, D+Q γ to (16 ⁻); band member.
14567.8 ^l 22	(15)	B	J ^π : ΔJ=1, D γ to (14 ⁻).
14610.5 ^l 29		B	J ^π : (14,15,16 ⁺) from γ to (14 ⁺).
14644.5 ^l 14	(16 ⁺)	B	J ^π : γ to (15 ⁺); ΔJ=2, Q γ from 18 ⁺ .
14831.1 ^l 13	(16 ⁺)	B	J ^π : γ to (15 ⁺); ΔJ=2, Q γ from 18 ⁺ .
14984.5 [‡] 14		B	J ^π : γ from (18 ⁺) suggests (16 ⁺ ,17,18).
15020.7 ^l 19	(17)	B	J ^π : ΔJ=1, D γ to (16 ⁺).
15040.1 ^l 11	(16 ⁺)	B	J ^π : γ to (14 ⁺); ΔJ=2, Q γ from 18 ⁺ .
15042.6 ^l 7	(18 ⁺)	B	J ^π : ΔJ=2, Q γ to (16 ⁺); ΔJ=1, D+Q γ to (17 ⁺); band member.
15076.7 ^s 11	(17 ⁻)	B	J ^π : ΔJ=1, D γ to (16 ⁺); band member.
15081.1 ^q 8	(16 ⁻)	B	J ^π : ΔJ=2, Q γ to (14 ⁻); γ to (15 ⁺); band member.
15281.2 ^l 14	(17 ⁺)	B	J ^π : ΔJ=2, Q γ to (15 ⁺); ΔJ=1, D+Q γ to (16 ⁺).
15294.1 ^l 16	(18 ⁺)	B	J ^π : γ to (16 ⁺); γ from 20 ⁺ .
15407.5 ^l 17	(17 ⁺)	B	J ^π : γ to (15 ⁺); γ from 19 ⁺ .
15414.0 ⁿ 6	(18 ⁻)	B	J ^π : ΔJ=2, Q γ to (16 ⁻); ΔJ=1, D+Q γ to (17 ⁻); band member.
15482.3 ^{‡4} 30	(16 ⁺)	B	J ^π : γ from (18 ⁺); band member.
15682.1 ^l 25		B	J ^π : (16,17,18 ⁺) from γ to (16 ⁺).
15704.5 ^k 7	(19 ⁻)	B	J ^π : ΔJ=2, Q γ to (17 ⁻); band member.
15716.0 ^l 15	(17 ⁺)	B	J ^π : γs to (15 ⁺) and (16 ⁺).
15727.3 ^l 19		B	J ^π : (16,17,18 ⁻) from γ to (16 ⁻).
15750.1 ^r 8	(17 ⁻)	B	J ^π : ΔJ=2, Q γ to (15 ⁻); ΔJ=1, D γ to (16 ⁺); band member.
15796.0 ^{‡v} 42	(16 ⁺)	B	J ^π : γ from (18 ⁺); band member.
15830.1 ^y 28	(17)	B	J ^π : ΔJ=1, D γ to (16 ⁺); band member.
15869.7 ^l 20	(17 ⁻)	B	J ^π : γ to (16 ⁺); band member.
16101.6 ^u 16	(17 ⁻)	B	J ^π : ΔJ=1, D γ to (16 ⁺); band member.

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π #	T _{1/2}	XREF	Comments
16234.3 33	(17)		B	J ^π : ΔJ=1, D γ to (16 ⁺).
16323.2 ^x 17	(18 ⁺)		B	J ^π : γ to (16 ⁺); band member.
16365.1 ^m 9	(19 ⁺)		B	J ^π : ΔJ=2, Q γ to (17 ⁺); ΔJ=1, D(+Q) γ to (18 ⁺); band member.
16369.6 31	(17)		B	J ^π : γ from (19) suggests (17,18,19).
16372.7 ^o 6	(19 ⁻)		B	J ^π : ΔJ=2, Q γ to (17 ⁻); ΔJ=1, D+Q γ to (18 ⁻); band member.
16413.9 27			B	J ^π : (16,17,18 ⁺) from γ to (16 ⁺).
16443.9 ^w 27	(17)		B	J ^π : γ to (16 ⁺); band member.
16469.6 16	(18 ⁺)		B	J ^π : ΔJ=2, Q γ to (16 ⁺).
16500.4 ^q 8	(18 ⁻)		B	J ^π : ΔJ=2, Q γ to (16 ⁻); γ to (17 ⁻); band member.
16574.0 ^{‡3} 20	(17 ⁻)		B	J ^π : γ from (19 ⁻); band member.
16677.8 [‡] 32			B	J ^π : γ from (19) suggests (17,18,19).
16715.0 10	(18 ⁺)		B	J ^π : ΔJ=2, Q γ to (16 ⁺); γ to (17 ⁻).
16817.2 11	(18 ⁺)		B	J ^π : ΔJ=2, Q γ to (16 ⁺); γ to (17 ⁻).
16874.2 24			B	J ^π : (17,18,19 ⁺) from γ to (17 ⁺).
16901.0 ^s 11	(19 ⁻)		B	J ^π : ΔJ=2, Q γ to (17 ⁻); γ to (19 ⁻); band member.
17035.2 33			B	J ^π : (16,17,18 ⁺) from γ to (16 ⁺).
17318.2 [‡] 22	(18 ⁻)		B	J ^π : γ from (20 ⁻).
17338.5 ^r 9	(19 ⁻)		B	J ^π : ΔJ=2, Q γ to (17 ⁻); ΔJ=1, D+Q γ to (18 ⁻); band member.
17350.2 ⁴ 28	(18 ⁺)		B	J ^π : ΔJ=2, Q γ to (16 ⁺); band member.
17365.1 18	(18 ⁻)		B	J ^π : γ to (16 ⁻).
17400.1 28			B	J ^π : (17,18,19 ⁺) from γ to (17 ⁺).
17407.5 ² 16	(18 ⁻)		B	J ^π : ΔJ=1, D+Q γ to (17 ⁻); γ to (16 ⁻); band member.
17454.0 ^y 31			B	
17477.8 ⁿ 7	(20 ⁻)		B	J ^π : ΔJ=2, Q γ to (18 ⁻); ΔJ=1, D+Q γ to (19 ⁻); band member.
17488.7 15	(19 ⁺)		B	J ^π : ΔJ=2, Q γ to (17 ⁺).
17508.6 [‡] 21	(18 ⁻)		B	J ^π : γ from (20 ⁻) suggests (18,19,20).
17578.7 ¹ 17	(19 ⁻)		B	J ^π : ΔJ=2, Q γ to (17 ⁻); band member.
17582.4 ^l 11	(20 ⁺)		B	J ^π : ΔJ=2, Q γ to (18 ⁺); ΔJ=1, D+Q γ to (19 ⁺); band member.
17646.3 ^v 39	(18 ⁺)		B	J ^π : γ to (16 ⁺); band member.
17665.9 26			B	J ^π : (17,18,19 ⁺) from γ to (17 ⁺).
17696.7 17	(19 ⁺)		B	J ^π : γ to (17 ⁺); Q γ from 21 ⁺ .
17748.8 32			B	J ^π : (17,18,19 ⁺) from γ to (17 ⁺).
17764.1 ^u 17	(19 ⁻)		B	J ^π : ΔJ=2, Q γ to (17 ⁻); band member.
17843.7 43			B	J ^π : (16,17,18 ⁺) from γ to (16 ⁺).
18020.3 35			B	J ^π : (17,18,19 ⁺) from γ to (17 ⁺).
18239.9 14	(20 ⁻)		B	J ^π : ΔJ=1, D+Q γ to (19 ⁻).
18286.5 ^q 9	(20 ⁻)		B	J ^π : ΔJ=2, Q γ to (18 ⁻); ΔJ=1, D+Q γ to (19 ⁻); band member.
18.4×10 ³ 1		11.6 MeV 2	C	Energy and width at E(³⁰ Si)=75 MeV from 2021Go15 for Giant-dipole resonance (GDR). Energy and width at E(³⁰ Si)=98 MeV are: 18.1 MeV 1 and 12.6 MeV 2, respectively.
18416.1 ³ 16	(19 ⁻)		B	J ^π : γs to (17 ⁻), (18 ⁻) and (18 ⁺); band member.
18502.0 ^o 8	(21 ⁻)		B	J ^π : ΔJ=2, Q γ to (19 ⁻); ΔJ=1, D+Q γ to (20 ⁻); band member.
18505.9 ^w 27	(19)		B	J ^π : γs to (17) and (17 ⁻); band member.
18516.4 ^t 25	(19 ⁺)		B	J ^π : ΔJ=2, Q γ to (17 ⁺); band member.
18592.7 37			B	J ^π : (17,18,19 ⁺) from γ to (17 ⁺).

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π #	XREF	Comments
18677.1 ^p 11	(20 ⁺)	B	J ^π : ΔJ=2, Q γ to (18 ⁺); γ to (19 ⁻); band member.
18724.8 ^{‡z} 27	(19 ⁺)	B	J ^π : γ from (21 ⁺); band member.
18759.0 ^x 18	(20 ⁺)	B	J ^π : γ to (18 ⁻); band member.
19093.1 ^s 16	(21 ⁻)	B	J ^π : ΔJ=2, Q γ to (19 ⁻); band member.
19177.0 25		B	J ^π : (19,20,21 ⁻) from γ to (19 ⁻).
19305.1 ^r 11	(21 ⁻)	B	J ^π : ΔJ=2, Q γ to (19 ⁻); γ to (20 ⁻); band member.
19399.9 ² 14	(20 ⁻)	B	J ^π : ΔJ=(2), (Q) γ to (18 ⁻); γ to (19 ⁻); band member.
19477.1 ⁴ 28	(20 ⁺)	B	J ^π : ΔJ=2, Q γ to (18 ⁺); band member.
19486.0 18	(21 ⁻)	B	J ^π : ΔJ=2, Q γ to (19 ⁻).
19498.1 ^m 25	(21 ⁺)	B	J ^π : γ to (19 ⁺); band member.
19599.4 [‡] 21	(20 ⁻)	B	J ^π : γ from 22 ⁻ suggest (20 ⁻ ,21 ⁻ ,22 ⁻).
19676.6 ⁿ 9	(22 ⁻)	B	J ^π : ΔJ=2, Q γ to (20 ⁻); γ to (21 ⁻); band member.
19677.4 ^y 36		B	
19702.7 ^v 41	(20 ⁺)	B	J ^π : ΔJ=2, Q γ to (18 ⁺); band member.
19757.1 ¹ 17	(21 ⁻)	B	J ^π : ΔJ=2, Q γ to (19 ⁻); band member.
19773.9 39		B	J ^π : (18,19,20 ⁺) from γ to (18 ⁺).
19777.7 ^u 17	(21 ⁻)	B	J ^π : ΔJ=2, Q γ to (19 ⁻); band member.
20026.8 24		B	J ^π : (19,20,21 ⁻) from γ to (19 ⁻).
20086.1 17	(21 ⁺)	B	J ^π : ΔJ=2, Q γ to (19 ⁺).
20432.3 ^t 26	(21 ⁺)	B	J ^π : ΔJ=2, Q γ to (19 ⁺); band member.
20441.8 ^q 12	(22 ⁻)	B	J ^π : ΔJ=2, Q γ to (20 ⁻); γ to (21 ⁻); band member.
20473.5 ³ 16	(21 ⁻)	B	J ^π : ΔJ=2, Q γ to (19 ⁻); ΔJ=1, D γ to (20 ⁻); band member.
20620.4 [‡] 25	(21 ⁺)	B	J ^π : γ from (23 ⁺) suggest that (21 ⁺ ,22 ⁺ ,23 ⁺).
20658.5 ^c 24	(21 ⁺)	B	J ^π : γ to (19 ⁺); band member.
20782.0 42		B	J ^π : (19,20,21 ⁻) from γ to (19 ⁻).
20851.3 ^w 33	(21)	B	J ^π : γ to (19); band member.
20856.9 ^p 16	(22 ⁺)	B	J ^π : ΔJ=2, Q γ to (20 ⁺); band member.
21036.8 ^o 10	(23 ⁻)	B	J ^π : ΔJ=2, Q γ to (21 ⁻); ΔJ=1, D+Q γ to (22 ⁻); band member.
21098 [‡] 6		B	J ^π : (20,21,22) from γ from (22).
21189.9 43		B	J ^π : (19,20,21 ⁻) from γ to (19 ⁻).
21197.1 32	(21)	B	J ^π : ΔJ=1, D γ to (20 ⁻).
21316.2 30	(21)	B	J ^π : ΔJ=1, D γ to (20 ⁻).
21401.4 30	(22 ⁻)	B	J ^π : ΔJ=(2), (Q) γ to (20 ⁻).
21403.3 ^x 27	(22 ⁺)	B	J ^π : γ to (20 ⁺); band member.
21468.1 28		B	J ^π : (20,21,22 ⁺) from γ to (20 ⁺).
21602.5 47	(21 ⁻)	B	J ^π : γ to (19 ⁻); D γ from (22).
21614.4 ² 16	(22 ⁻)	B	J ^π : ΔJ=2, Q γ to (20 ⁻); band member.
21682.6 ^r 14	(23 ⁻)	B	J ^π : ΔJ=2, Q γ to (21 ⁻); γ to (22 ⁻); band member.
21686.9 ^s 21	(23 ⁻)	B	J ^π : ΔJ=2, Q γ to (21 ⁻); band member.
21824.8 ^{‡5} 50		B	J ^π : (22,23,24) from γ from (22).
21851.9 ⁴ 30	(22 ⁺)	B	J ^π : ΔJ=2, Q γ to (20 ⁺); band member.
22029.7 ^v 44	(22 ⁺)	B	J ^π : ΔJ=2, Q γ to (20 ⁺); band member.
22127.1 ¹ 17	(23 ⁻)	B	J ^π : ΔJ=2, Q γs to (21 ⁻); band member.
22243.6 ^u 19	(23 ⁻)	B	J ^π : ΔJ=2, Q γ to (21 ⁻); band member.
22567.8 ^t 28	(23 ⁺)	B	J ^π : ΔJ=2, Q γ to (21 ⁺); band member.
22741.5 41		B	J ^π : (21,22,23 ⁻) from γ to (21 ⁻).
22782.5 ³ 18	(23 ⁻)	B	J ^π : ΔJ=2, Q γ to (21 ⁻); γ to (22 ⁻); band member.
22794.3 22	(23 ⁺)	B	J ^π : ΔJ=2, Q γ to (21 ⁺).
22822.6 34		B	J ^π : (21,22,23 ⁻) from γ to (21 ⁻).
22866.0 ^c 23	(23 ⁺)	B	J ^π : ΔJ=2, Q γs to (21 ⁺); band member.
23024.4 46		B	
23028.6 ⁶ 25	(23 ⁻)	B	J ^π : ΔJ=2, Q γ to (21 ⁻); band member.

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J ^π #	T _{1/2}	XREF	Comments
23071.5 ^q 16	(24 ⁻)		B	J ^π : ΔJ=2, Q γ to (22 ⁻); γ to (23 ⁻); band member.
23079.4 27			B	J ^π : (22,23,24 ⁻) from γ to (22 ⁻).
23179.2 ⁿ 16	(24 ⁻)		B	J ^π : ΔJ=2, Q γ to (22 ⁻); γ to (23 ⁻); band member.
23184.4 39			B	J ^π : (21,22,23 ⁻) from γ to (21 ⁻).
23274 5	(22)		B	J ^π : γ from (24) suggest that (22,23,24).
23341.6 ^p 22	(24 ⁺)		B	J ^π : ΔJ=2, Q γ to (22 ⁺); band member.
23376.6 ^s 48	(22)		B	J ^π : ΔJ=1, D γ to (21 ⁻); band member.
23408.0 44			B	J ^π : (21,22,23 ⁻) from γ to (21 ⁻).
23467.0 ^w 39	(23)		B	J ^π : γ to (21); band member.
23625.1 ^x 33			B	J ^π : (22,23,24 ⁺) from γ to (22 ⁺); band member.
23761.6 45			B	J ^π : (21,22,23 ⁻) from γ to (21 ⁻).
24053.7 ² 18	(24 ⁻)		B	J ^π : ΔJ=2, Q γ to (22 ⁻); band member.
24307.9 38	(24 ⁻)		B	J ^π : ΔJ=2, Q γ to (22 ⁻).
24468.3 ⁴ 33	(24 ⁺)		B	J ^π : ΔJ=2, Q γ to (22 ⁺); band member.
24607.3 ^r 22	(25 ⁻)		B	J ^π : ΔJ=2, Q γ to (23 ⁻); band member.
24692.1 ^v 47	(24 ⁺)		B	J ^π : ΔJ=2, Q γ to (22 ⁺); band member.
24725.6 ^s 28	(25 ⁻)		B	J ^π : ΔJ=2, Q γ to (23 ⁻); band member.
24912.7 ¹ 24	(25 ⁻)		B	J ^π : ΔJ=2, Q γ to (23 ⁻); band member.
25145.2 ^t 29	(25 ⁺)		B	J ^π : ΔJ=2, Q γ to (23 ⁺); band member.
25162.1 ^u 25	(25 ⁻)		B	J ^π : ΔJ=2, Q γ to (23 ⁻); band member.
25338.5 ^z 23	(25 ⁺)		B	J ^π : ΔJ=2, Q γs to (23 ⁺); band member.
25347.1 ³ 21	(25 ⁻)		B	J ^π : ΔJ=2, Q γ to (23 ⁻); band member.
25402.1 ⁵ 50	(24)		B	J ^π : ΔJ=2, Q γs to (22); band member.
25438.3 39			B	J ^π : (23,24,25 ⁻) from γ to (23 ⁻).
25478.9 ⁶ 24	(25 ⁻)		B	J ^π : γ to (23 ⁻); band member.
25660.4 28	(25 ⁻)		B	J ^π : ΔJ=2, Q γ to (23 ⁻).
25880.3 38			B	J ^π : (23,24,25 ⁻) from γ to (23 ⁻).
25989.7 40			B	J ^π : (23,24,25 ⁻) from γ to (23 ⁻).
26173.9 ^p 29	(26 ⁺)		B	J ^π : ΔJ=2, Q γ to (24 ⁺); band member.
26228.2 42			B	J ^π : (23,24,25 ⁻) from γ to (23 ⁻).
26322.9 ^q 24	(26 ⁻)		B	J ^π : ΔJ=2, Q γ to (24 ⁻); band member.
26461.6 ^w 43	(25)		B	J ^π : γ to (23); band member.
26743.7 ² 22	(26 ⁻)		B	J ^π : ΔJ=2, Q γ to (24 ⁻); band member.
27316.9 ⁴ 37	(26 ⁺)		B	J ^π : ΔJ=2, Q γ to (24 ⁺); band member.
27718 ⁵ 5	(26)		B	J ^π : ΔJ=2, Q γ to (24); band member.
27764 ^v 6	(26 ⁺)		B	J ^π : γ to (24 ⁺); band member.
28162.7 ³ 24	(27 ⁻)		B	J ^π : ΔJ=(2), (Q) γ to (25 ⁻); band member.
28205.7 ^z 28	(27 ⁺)		B	J ^π : ΔJ=2, Q γ to (25 ⁺); band member.
28230.0 ^r 40	(27 ⁻)		B	J ^π : ΔJ=2, Q γ to (25 ⁻); band member.
28244.8 ⁶ 25	(27 ⁻)		B	J ^π : γs to (25 ⁻); band member.
28369.2 ¹ 34	(27 ⁻)		B	J ^π : ΔJ=(2), (Q) γ to (25 ⁻); band member.
28555.2 ^s 42	(27 ⁻)		B	J ^π : γ to (25 ⁻); band member.
28745.4 ^u 42	(27 ⁻)		B	J ^π : γ to (25 ⁻); band member.
29473.8 ^p 39	(28 ⁺)		B	J ^π : ΔJ=2, Q γ to (26 ⁺); band member.
29.5×10 ³		6.7 MeV 3	R	T _{1/2} : for GDR for T=0.9 MeV with SLO model. Others: Γ varies from 5.5 to 7.9 MeV for different model parameters.
29682.6 ² 28	(28 ⁻)		B	J ^π : ΔJ=2, Q γ to (26 ⁻); band member.
29818 ^w 5	(27)		B	J ^π : γ to (25); band member.
30370 ⁵ 6	(28)		B	J ^π : ΔJ=2, Q γ to (26); band member.
30434.7 ⁴ 43	(28 ⁺)		B	J ^π : ΔJ=(2), (Q) γ to (26 ⁺); band member.
30508.0 ^q 44	(28 ⁻)		B	J ^π : γ to (26 ⁻); band member.

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

E(level) [†]	J^π [#]	$T_{1/2}$	XREF	Comments
31213.0 ³ 28	(29 ⁻)		B	J^π : γ s to (27 ⁻); band member.
31397.8 ⁶ 34	(29 ⁻)		B	J^π : γ to (27 ⁻); band member.
31542.7 ² 40	(29 ⁺)		B	J^π : γ to (27 ⁺); band member.
32916.7 ² 38	(30 ⁻)		B	J^π : γ to (28 ⁻); band member.
33360.6 ^P 50	(30 ⁺)		B	J^π : γ to (28 ⁺); band member.
33458 ⁵ 6	(30)		B	J^π : γ to (28); band member.
33791 5	(30 ⁺)		B	J^π : γ to (28 ⁺); band member.
33798.0 ⁴ 50	(30 ⁺)		B	J^π : γ to (28 ⁺); band member.
34600.7 ³ 38	(31 ⁻)		B	J^π : γ to (29 ⁻); band member.
35339 ² 6	(31 ⁺)		B	J^π : γ to (29 ⁺); band member.
36496.6 ² 49	(32 ⁻)		B	J^π : γ to (30 ⁻); band member.
36897 ⁵ 7	(32)		B	J^π : γ to (30); band member.
38366 ³ 5	(33 ⁻)		B	J^π : γ to (31 ⁻); band member.
40455 ² 6	(34 ⁻)		B	J^π : γ to (32 ⁻); band member.
40730 6	(34 ⁻)		B	J^π : γ to (32 ⁻); band member.
40.8×10 ³		7.0 MeV 3	R	$T_{1/2}$: for GDR for T=1.5 MeV with SLO model. Others: Γ varies from 6.6 to 8.6 MeV for different model parameters.
42519 ³ 7	(35 ⁻)		B	J^π : γ to (33 ⁻); band member.

[†] From least-squares fit to the E_γ data from γ -ray studies. Reduced $\chi^2=0.61$, with only two E_γ values poorly fitted: 3425.0 γ from 3424 level to the g.s., and 2870.5 γ from 5210 level. Energies of levels populated only in particle-transfer data, are from averages of available values of comparable precision.

[‡] No deexciting γ ray(s) from this level.

[#] Unless otherwise specified, J^π assignments are from $\gamma\gamma(\theta)$ (DCO) data, deexcitation pattern, band assignments, and comparison with cranked-shell model calculations in 2012Ge04 from the reaction: $^{28}\text{Si}(^{36}\text{Ar},2p\gamma), ^{40}\text{Ca}(^{28}\text{Si},\alpha2p\gamma)$. Above 6.1 MeV excitation, except for three levels populated in ($^{12}\text{C}, ^{10}\text{Be}$), all the assignments are from $^{28}\text{Si}(^{36}\text{Ar},2p\gamma), ^{40}\text{Ca}(^{28}\text{Si},\alpha2p\gamma)$. Most of these are placed in parentheses, as in evaluators' opinion, strong arguments for definite assignments seem lacking in the absence of definite electric or magnetic nature of multipolarity assignments from γ -ray polarization data, or level lifetime measurements. Further, ascending spins with increasing excitation energy are assumed due to the yrast nature of population of levels in heavy-ion in-beam γ -ray spectroscopy. Values of L-transfers are from 0^+ targets in all the particle-transfer reactions given here.

@ Band(A): g.s., normal deformed, ND-1 band. Configuration=[00,00].

& Band(B): Normal-deformed, ND-2 band, $\alpha=0$.

^a Band(b): Normal-deformed, ND-2 band, $\alpha=1$.

^b Band(C): Normal-deformed, ND-3 band, $\alpha=0$. Configuration=[00,01].

^c Band(c): Normal-deformed, ND-3 band, $\alpha=1$. Configuration=[00,01].

^d Band(D): Normal-deformed, ND-4 band, $\alpha=0$.

^e Band(d): Normal-deformed, ND-4 band, $\alpha=1$.

^f Band(E): Normal-deformed, ND-5 band, $\alpha=1$.

^g Band(F): Normal-deformed, ND-6 band, $\alpha=0$. Configuration=[01,01⁽⁺⁾].

^h Band(f): Normal-deformed, ND-6 band, $\alpha=1$. Configuration=[01,01⁽⁺⁾].

ⁱ Band(G): Normal-deformed, ND-7 band, $\alpha=1$. Configuration=[01⁽⁺⁾,01⁽⁻⁾].

^j Band(h): Normal-deformed, ND-8 band. Configuration=[00,02].

^k Band(i): Normal-deformed, ND-9 band. Configuration=[01⁽⁺⁾,02].

^l Band(J): Terminating, TB-1 band, $\alpha=0$. Configuration=[11,01⁽⁺⁾].

^m Band(j): Terminating, TB-1 band, $\alpha=1$. Configuration=[11,01⁽⁺⁾].

ⁿ Band(K): Terminating, TB-2 band, $\alpha=0$. Configuration=[11,02].

^o Band(k): Terminating, TB-2 band, $\alpha=1$. Configuration=[11,02].

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Adopted Levels, Gammas (continued) ^{62}Zn Levels (continued)

- ^p Band(H): Well-deformed, WD-1 band. Configuration=[22,02].
- ^q Band(L): Well-deformed, WD-2 band, $\alpha=0$. Configuration=[11,12⁽⁺⁾].
- ^r Band(I): Well-deformed, WD-2 band, $\alpha=1$. Configuration=[11,12⁽⁺⁾].
- ^s Band(I): Well-deformed, WD-3 band. Configuration=[22,01⁽⁺⁾].
- ^t Band(M): Well-deformed, WD-4 band. Configuration=[12⁽⁺⁾,02].
- ^u Band(N): Well-deformed, WD-6 band. Configuration=[11,12⁽⁺⁾].
- ^v Band(O): Well-deformed, WD-8 band. Configuration=[11,13].
- ^w Band(P): Well-deformed, WD-9 band.
- ^x Band(Q): Well-deformed, WD-10 band. Configuration=[21⁽⁺⁾,01⁽⁺⁾].
- ^y Band(R): Well-deformed, WD-11 band.
- ^z Band(S): Well-deformed, WD-5 band. Configuration=[22,12⁽⁺⁾].
- ¹ Band(T): Well-deformed, WD-7 band. Configuration=[21⁽⁺⁾,02].
- ² Band(U): SD-1 band, $\alpha=0$. Configurations=[22,23]. Band intensity $\approx 1\%$; $Q(\text{transition})=2.7+7-5$ (1997Sv02), corresponding to $\beta_2=0.45+10-7$. Other configuration= $\nu f_{7/2}^{-2} \nu g_{9/2}^{+2}$ with possible contribution from configuration= $\nu f_{7/2}^{-2} \nu g_{9/2}^{+3}$ (1997Sv02).
- ³ Band(V): SD-2 band, $\alpha=1$. Configurations=[22,23].
- ⁴ Band(W): SD-3 band Configurations=[22,24].
- ⁵ Band(X): SD-4 band.
- ⁶ Band(Y): SD-5 band. Configuration=[22,13].

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$

Additional information 2.

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	δ	$\alpha^@$	Comments
953.86	2 ⁺	953.75 10	100	0.0	0 ⁺	E2		3.30×10 ⁻⁴ 5	B(E2)(W.u.)=16.8 +13-11 E _γ : weighted average of 953.7 1 in ε decay; 953.9 3 in (³⁶ Ar,2pγ); 953.5 3 in (⁶ Li,pnγ); 953.8 1 in (³ He,2nγ); 953.8 5 in (α,2nγ); 953.9 5 in (p,2nγ). Other: 955 2 in ¹² C(⁶³ Ga, ⁶² Zn'γ).
1804.66	2 ⁺	850.75 10	100.0 30	953.86	2 ⁺	M1+E2	-3.7 +7-10	4.32×10 ⁻⁴ 7	B(M1)(W.u.)=5.0×10 ⁻⁴ +27-20; B(E2)(W.u.)=16.8 +33-25 E _γ : weighted average of 850.7 1 in ε decay; 850.9 3 in (³⁶ Ar,2pγ); 850.6 5 in (⁶ Li,pnγ); 850.8 1 in (³ He,2nγ); 850.7 5 in (α,2nγ); 850.5 5 in (p,2nγ). δ: weighted average of -3.6 +7-10 from γγ(θ) in (³ He,2nγ); -5.1 +29-34 from γ(θ) in (⁶ Li,pnγ); and -5.1 +29-34 from γγ(θ) in (⁶² Ga β ⁻ decay). Others: -1.2 +5-9 from γ(θ) in (α,2nγ); -1.2 +4-5 from γ(θ) in (p,2nγ). From systematics of δ(E2/M1) values for γ transition from second 2 ⁺ to the first 2 ⁺ , larger δ value i.e. dominant mult=E2 is preferred by evaluators.
		1804.68 10	83.6 34	0.0	0 ⁺	E2		3.02×10 ⁻⁴ 4	B(E2)(W.u.)=0.35 +7-5 E _γ : weighted average of 1804.6 1 in ε decay; 1805.0 5 in (³⁶ Ar,2pγ); 1805.1 4 in (⁶ Li,pnγ); 1804.8 2 in (³ He,2nγ); 1805.0 5 in (α,2nγ); 1804.6 5 in (p,2nγ). I _γ : weighted average of 85.2 34 in ε decay; 87 5 in (³⁶ Ar,2pγ); 78 4 in (⁶ Li,pnγ); 89 9 in (³ He,2nγ). Others: 65 7 in (α,2nγ); 64 7 in (p,2nγ). Weighted average of all the six values is 80.3 36.
2186.03	4 ⁺	1232.13 10	100	953.86	2 ⁺	E2		1.97×10 ⁻⁴ 3	B(E2)(W.u.)=26 +9-8 E _γ : weighted average of 1231.9 3 in (³⁶ Ar,2pγ); 1231.9 3 in (⁶ Li,pnγ); 1232.2 1 in (³ He,2nγ); 1232.2 5 in (α,2nγ); 1231.7 5 in (p,2nγ). Other: 1229 4 in ¹² C(⁶³ Ga, ⁶² Zn'γ).
2342.37	0 ⁺	1388.4 1	100	953.86	2 ⁺				
2384.49	3 ⁺	580.0 2	73.1 22	1804.66	2 ⁺	(M1+E2)	-1.8 3	0.00115 4	B(M1)(W.u.)=0.007 +8-3; B(E2)(W.u.)=1.1×10 ² +12-5 E _γ : weighted average of 580.1 2 in (³⁶ Ar,2pγ); 580.0 5 in (⁶ Li,pnγ); 579.8 2 in (³ He,2nγ); 579.9 5 in (α,2nγ); 580.0 5 in (p,2nγ). I _γ : weighted average of 74.0 22 in (³⁶ Ar,2pγ); 73 5 in

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	δ	$\alpha^@$	Comments
									($^6\text{Li}, \text{pn}\gamma$); 64 7 in ($^3\text{He}, 2\text{n}\gamma$).
2384.49	3 ⁺	1430.7 2	100 5	953.86	2 ⁺	(M1+E2)	+3.4 +9-6	1.94×10 ⁻⁴ 3	δ : weighted average of -1.1 7 from $\gamma(\theta)$ in ($^6\text{Li}, \text{pn}\gamma$); -1.9 +3-5 from $\gamma\gamma(\theta)$ in ($^3\text{He}, 2\text{n}\gamma$). Others: -0.5 1 from $\gamma(\theta)$ in (p,2n γ); $\approx$ -0.15 or $\approx$ -2.1 from DCO in ($^{36}\text{Ar}, 2\text{p}\gamma$), B(M1)(W.u.)=2.0×10 ⁻⁴ +25-10; B(E2)(W.u.)=2.0 +22-9
2743.55	4 ⁺	359.3 2	10.2 31	2384.49	3 ⁺	(M1+E2)	-0.20 12	0.00252 19	E_γ : weighted average of 1430.6 6 in ($^{36}\text{Ar}, 2\text{p}\gamma$); 1430.6 8 in ($^6\text{Li}, \text{pn}\gamma$); 1430.7 2 in ($^3\text{He}, 2\text{n}\gamma$). δ : from $\gamma\gamma(\theta)$ in ($^3\text{He}, 2\text{n}\gamma$). Other: +0.30 +6-7 from DCO in ($^{36}\text{Ar}, 2\text{p}\gamma$), B(M1)(W.u.)=0.0108 33; B(E2)(W.u.)=6 +9-5
		557.4 2	100 4	2186.03	4 ⁺	(M1+E2)	-0.36 3	9.32×10 ⁻⁴ 16	E_γ : weighted average of 359.5 2 in ($^{36}\text{Ar}, 2\text{p}\gamma$); 359.1 2 in ($^6\text{Li}, \text{pn}\gamma$); 359.2 4 in ($^3\text{He}, 2\text{n}\gamma$). I_γ : unweighted average of 9.88 29 in ($^{36}\text{Ar}, 2\text{p}\gamma$); and 15.8 9 in ($^6\text{Li}, \text{pn}\gamma$); 5 2 in ($^3\text{He}, 2\text{n}\gamma$). δ : weighted average of -0.13 +7-10 from DCO in ($^{36}\text{Ar}, 2\text{p}\gamma$); -0.9 +4-6 from $\gamma(\theta)$ in ($^6\text{Li}, \text{pn}\gamma$); -0.32 22 from $\gamma\gamma(\theta)$ in ($^3\text{He}, 2\text{n}\gamma$). B(M1)(W.u.)=0.0263 +29-24; B(E2)(W.u.)=19.3 +37-32
		938.7 2	69 6	1804.66	2 ⁺	E2		3.43×10 ⁻⁴ 5	E_γ : weighted average of 557.3 3 in ($^{36}\text{Ar}, 2\text{p}\gamma$); 557.3 5 in ($^6\text{Li}, \text{pn}\gamma$); 557.5 2 in ($^3\text{He}, 2\text{n}\gamma$). δ : weighted average of -0.35 3 from $\gamma(\theta)$ in ($^6\text{Li}, \text{pn}\gamma$); -0.38 7 from $\gamma\gamma(\theta)$ in ($^3\text{He}, 2\text{n}\gamma$). Mult.: $\Delta J=0$ transition. B(E2)(W.u.)=8.6 +10-9
		1789.7 9	2 1	953.86	2 ⁺	[E2]		2.97×10 ⁻⁴ 4	E_γ : weighted average of 938.4 4 in ($^{36}\text{Ar}, 2\text{p}\gamma$); and 938.2 5 in ($^6\text{Li}, \text{pn}\gamma$); 938.9 2 in ($^3\text{He}, 2\text{n}\gamma$). I_γ : unweighted average of 57.6 25 in ($^{36}\text{Ar}, 2\text{p}\gamma$); 70.8 23 in ($^6\text{Li}, \text{pn}\gamma$); 79 10 in ($^3\text{He}, 2\text{n}\gamma$). B(E2)(W.u.)=0.010 5
2803.24	2 ⁺	998.4 4	9 2	1804.66	2 ⁺	(M1+E2)		2.73×10 ⁻⁴ 23	γ reported only in ($^3\text{He}, 2\text{n}\gamma$). B(M1)(W.u.)>0.0073 if M1. B(E2)(W.u.)>13 if E2.
		1849.4 1	100 7	953.86	2 ⁺	(M1(+E2))	+0.03 16	2.71×10 ⁻⁴ 4	B(M1)(W.u.)>0.016
		2803.0 5	8 5	0.0	0 ⁺	[E2]		7.32×10 ⁻⁴ 10	B(E2)(W.u.)>0.033
2883.86	2 ⁺	1079.4 4	5 2	1804.66	2 ⁺	[M1+E2]		2.30×10 ⁻⁴ 16	E_γ : from ^{62}Ga decay only. B(M1)(W.u.)>0.0031 if M1. B(E2)(W.u.)>4.6 if E2.
		1930.1 4	100 7	953.86	2 ⁺	(M1(+E2))	-0.32 +30-36	3.04×10 ⁻⁴ 12	B(M1)(W.u.)>0.013; B(E2)(W.u.)>0.0035
									E_γ : other: 1931.3 5 in ^{62}Ga ε decay.

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ	$\alpha^@$	Comments
2883.86	2 ⁺	(2884.0 5)	<2	0.0	0 ⁺	[E2]		7.67×10 ⁻⁴ 11	
2961.56	(1 ⁺)	619.1 [‡] 1	64 [‡] 8	2342.37	0 ⁺				
		1156.8 [‡] 2	100 [‡] 12	1804.66	2 ⁺				
		2962.3 [‡] 8	30 [‡] 10	0.0	0 ⁺				
3046.40	0 ⁺	2092.5 1	100	953.86	2 ⁺				
3148.02	(0 ⁺ , 1 ⁻ , 2 ⁺)	2193.2 8	100	953.86	2 ⁺				
3180.90	1 ⁽⁺⁾	295.5 ^{‡&} 14	1.5 [‡] 13	2883.86	2 ⁺				
		838.7 [‡] 4	2.5 [‡] 11	2342.37	0 ⁺				
		1376.2 [‡] 3	2.8 [‡] 7	1804.66	2 ⁺				
		2227.0 [‡] 1	100.0 [‡] 21	953.86	2 ⁺	(M1(+E2))	-0.01 8	4.12×10 ⁻⁴ 6	δ : from $\gamma\gamma(\theta)$ for J=1 for 3181 level.
		3180.8 [‡] 1	13.3 [‡] 6	0.0	0 ⁺				
3209.79	4 ⁺	(325.7)	<2	2883.86	2 ⁺	[E2]		0.00825 12	E_γ, I_γ : From $^{61}\text{Ni}(^3\text{He}, 2n\gamma)$.
		(406.7)	<2	2803.24	2 ⁺	[E2]		0.00387 5	E_γ, I_γ : From $^{61}\text{Ni}(^3\text{He}, 2n\gamma)$.
		1023.7 2	100 5	2186.03	4 ⁺	(M1(+E2))	+0.01 18	2.38×10 ⁻⁴ 4	B(M1)(W.u.)>0.049
									E_γ : weighted average of 1023.4 5 in ($^{36}\text{Ar}, 2p\gamma$);
									1024.0 10 in ($^6\text{Li}, pn\gamma$); 1023.7 2 in
									($^3\text{He}, 2n\gamma$).
		2256.4 8	32 5	953.86	2 ⁺	[E2]		4.92×10 ⁻⁴ 7	B(E2)(W.u.)>0.46
									E_γ : weighted average of 2256.1 16 in
									($^{36}\text{Ar}, 2p\gamma$); 2256.5 8 in ($^3\text{He}, 2n\gamma$).
									I_γ : weighted average of 29 5 in ($^{36}\text{Ar}, 2p\gamma$); 40
									8 in ($^3\text{He}, 2n\gamma$).
3223.50	3 ⁻	2269.6 4	100	953.86	2 ⁺	D(+Q)	-0.10 19		δ : from $\gamma\gamma(\theta)$ in ($^3\text{He}, 2n\gamma$).
									E_γ, I_γ : From $^{61}\text{Ni}(^3\text{He}, 2n\gamma)$. $E_\gamma=2270$ 17 in
									$^{12}\text{C}(^{63}\text{Ga}, ^{62}\text{Zn}'\gamma)$.
3340.51	(0 ⁺ , 1, 2 ⁻)	2386.0 5	100	953.86	2 ⁺				
3374.24	1 ⁻	1031.4 [‡] 2	13.5 [‡] 24	2342.37	0 ⁺				
		1569.7 [‡] 1	100 [‡] 5	1804.66	2 ⁺				
		3374.1 [‡] 2	58 [‡] 4	0.0	0 ⁺				
3424.17	(1 ⁺)	1619.3 1	100 5	1804.66	2 ⁺				
		2471.4 5	30 13	953.86	2 ⁺				
		3425.3 3	30 5	0.0	0 ⁺				E_γ : poor fit, level-energy difference gives
									$E_\gamma=3424.1$.
3561.0	(0 ⁺ , 1, 2 ⁻)	2607.1 5	100	953.86	2 ⁺				
3586.56	5 ⁺	843.0 3	100 5	2743.55	4 ⁺	(M1+E2)	-0.7 5	3.86×10 ⁻⁴ 28	B(M1)(W.u.)=0.020 +13-11; B(E2)(W.u.)=24
									+24-21
									δ : weighted average of -2.5 +10-33, -0.38 22 from

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)

<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_{γ}^{$\dagger$}</u>	<u>I_{γ}^{$\dagger$}</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>Mult. #</u>	<u>α[@]</u>	<u>Comments</u>
3586.56	5 ⁺	1202.1 3	93 7	2384.49	3 ⁺	E2	2.02×10 ⁻⁴ 3	$\gamma\gamma(\theta)$ in (³ He,2n γ) and -2.17 +84-5 from $\gamma(\theta)$ in (⁶ Li,pn γ). Other: $\approx$ -0.39 or $\approx$ -1.9 from (³⁶ Ar,2p γ), E _{γ} : weighted average of 843.2 3 in (³⁶ Ar,2p γ); 842.7 5 in (⁶ Li,pn γ); 843.0 3 in (³ He,2n γ). B(E2)(W.u.)=12 +6-5 E _{γ} : weighted average of 1202.2 5 in (³⁶ Ar,2p γ); 1202.2 6 in (⁶ Li,pn γ); 1202.1 3 in (³ He,2n γ). I _{γ} : unweighted average of 95 5 in (³⁶ Ar,2p γ); 80.4 36 in (⁶ Li,pn γ); 103 5 in (³ He,2n γ). B(M1)(W.u.)=1.4×10 ⁻⁴ +8-7 if M1, B(E2)(W.u.)=0.12 +7-6 if E2.
3690.6	(0 ⁺ ,1,2 ⁻)	1400.7 11	2.1 5	2186.03	4 ⁺	[M1+E2]	1.81×10 ⁻⁴ 12	
3707.47	6 ⁺	2736.7 9	100	953.86	2 ⁺			
		1521.3 3	100	2186.03	4 ⁺	E2	2.12×10 ⁻⁴ 3	B(E2)(W.u.)=21 +9-8 E _{γ} : weighted average of 1521.6 4 in (³⁶ Ar,2p γ); 1520.7 4 in (⁶ Li,pn γ); 1521.5 3 in (³ He,2n γ); 1521.5 5 in (p,2n γ); 1521.3 5 in (α ,2n γ).
4008.4	(0 ⁺ to 4 ⁺)	2203.7 7	100	1804.66	2 ⁺			
4021.79	(1 ⁺)	1218.5 ^{$\dagger$} 6	7.7 ^{$\dagger$} 18	2803.24	2 ⁺			
		1680.4 ^{$\dagger$} 4	4.7 ^{$\dagger$} 12	2342.37	0 ⁺			
		3067.8 ^{$\dagger$} 2	9.1 ^{$\dagger$} 8	953.86	2 ⁺			
		4021.6 ^{$\dagger$} 1	100.0 ^{$\dagger$} 36	0.0	0 ⁺			
4043.12	5 ⁻	833.3 3	18 5	3209.79	4 ⁺	[E1]	1.83×10 ⁻⁴ 3	B(E1)(W.u.)=1.3×10 ⁻⁴ +7-4 E _{γ} : weighted average of 833.3 3 in (³⁶ Ar,2p γ); 833.4 10 in (⁶ Li,pn γ); 833.2 3 in (³ He,2n γ). I _{γ} : unweighted average of 9.4 7 in (³⁶ Ar,2p γ); 27 5 in (⁶ Li,pn γ); 18 8 in (³ He,2n γ). Mult.: $\Delta J=2$, quadrupole implying E2 in (³⁶ Ar,2p γ), (2012Ge04) is in disagreement.
		1299.4 5	32.4 17	2743.55	4 ⁺	(E1)	1.95×10 ⁻⁴ 3	B(E1)(W.u.)=6.1×10 ⁻⁵ +28-12 E _{γ} : weighted average of 1299.4 5 in (³⁶ Ar,2p γ); 1299.3 12 in (⁶ Li,pn γ); 1299.4 4 in (³ He,2n γ). I _{γ} : unweighted average of 31.3 15 in (³⁶ Ar,2p γ); 40 6 in (⁶ Li,pn γ); 35 4 in (³ He,2n γ). B(E1)(W.u.)=6.5×10 ⁻⁵ +29-12 E _{γ} : weighted average of 1857.4 7 in (³⁶ Ar,2p γ); 1856.4 8 in (⁶ Li,pn γ); 1857.5 4 in (³ He,2n γ). Mult.: from $\gamma(\theta)$ and polarization in (⁷ Li,pn γ).
		1857.3 4	100 5	2186.03	4 ⁺	E1	5.75×10 ⁻⁴ 8	
4217.6		2031.5 7	100	2186.03	4 ⁺			

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ	$\alpha^@$	Comments
4230.7	(5 ⁺)	643.9 8 1487.1 15 1845.8 17 2044.8 18	88 13 63 13 100 38 100 13	3586.56 2743.55 2384.49 2186.03	5 ⁺ 4 ⁺ 3 ⁺ 4 ⁺				
4322.66	(1 ⁺)	1982.1 & 9 2518.0 6 3368.1 5	8 5 100 15 52 21	2342.37 1804.66 953.86	0 ⁺ 2 ⁺ 2 ⁺				
4347.91	6 ⁺	640.4 2	13.1 30	3707.47	6 ⁺	(M1)		6.39×10 ⁻⁴ 9	B(M1)(W.u.)=0.032 +33-16 E _γ : weighted average of 640.6 2 in (³⁶ Ar,2pγ); 640.3 2 in (⁶ Li,pnγ); 640.4 3 in (³ He,2nγ). I _γ : unweighted average of 13.6 4 in (³⁶ Ar,2pγ); 7.7 7 in (⁶ Li,pnγ); 18 2 in (³ He,2nγ). Mult.: ΔJ=0 transition.
		761.4 2 1604.3 3	9.85 30 100.0 34	3586.56 2743.55	5 ⁺ 4 ⁺	(M1(+E2)) E2	-0.07 +8-10	4.41×10 ⁻⁴ 7 2.34×10 ⁻⁴ 3	B(M1)(W.u.)=0.014 +17-8 B(E2)(W.u.)=11 +11-5 E _γ : weighted average of 1604.4 4 in (³⁶ Ar,2pγ); 1604.2 7 in (⁶ Li,pnγ); 1604.2 3 in (³ He,2nγ).
4447.87	(1 ⁺)	1107.4 6 1644.6 2 2105.4 1 2643.2 1 3493.9 1 4447.7 1	0.77 34 13.7 17 36.8 17 31.1 14 54.7 17 100 7	3340.51 2803.24 2342.37 1804.66 953.86 0.0	(0 ⁺ ,1,2 ⁻) 2 ⁺ 0 ⁺ 2 ⁺ 2 ⁺ 0 ⁺				
4531.6	(0 ⁺ ,1,2 ⁻)	3577.6 ‡ 5	100 ‡	953.86	2 ⁺				
4535.28	5 ⁻	492.4 2 827.7 4 2349.8 9	20.5 26 30.0 37 100 7	4043.12 3707.47 2186.03	5 ⁻ 6 ⁺ 4 ⁺	D D			
4894.35	(1 ⁺)	1932.4 2 2091.5 4 3089.6 & 6 3940.5 4 4894.2 1	29.7 32 10.9 31 2.0 14 5.0 22 100 13	2961.56 2803.24 1804.66 953.86 0.0	(1 ⁺) 2 ⁺ 2 ⁺ 2 ⁺ 0 ⁺				
4904.73	7 ⁻	369.7 2 556.9 5	4.67 13 47.5 25	4535.28 4347.91	5 ⁻ 6 ⁺	E2 (E1)		0.00533 8 4.52×10 ⁻⁴ 6	B(E2)(W.u.)=20 +14-6 B(E1)(W.u.)=9×10 ⁻⁵ +6-3 I _γ : weighted average of 46.7 25 in (³⁶ Ar,2pγ); 63 15 in (⁶ Li,pnγ); 54 10 in (³ He,2nγ).

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ	$\alpha^@$	Comments
4904.73	7 ⁻	861.4 3	9.4 46	4043.12	5 ⁻	E2		4.24×10 ⁻⁴ 6	B(E2)(W.u.)=0.6 +5-3 I _γ : unweighted average of 4.88 15 in (³⁶ Ar,2pγ); 14 2 in (³ He,2nγ).
		1196.8 6	100.0 30	3707.47	6 ⁺	E1		1.39×10 ⁻⁴ 2	B(E1)(W.u.)=1.9×10 ⁻⁵ +13-6 δ(M2/E1)=-0.01 13 in (³ He,2nγ).
5123.88	7 ⁻	219.3 2	7.7 6	4904.73	7 ⁻	(M1)		0.00793 11	B(M1)(W.u.)=0.06 +6-2 Mult.: ΔJ=0 transition.
		775.8 7	1.66 18	4347.91	6 ⁺	[E1]		2.13×10 ⁻⁴ 3	B(E1)(W.u.)=5×10 ⁻⁶ +6-2
		1080.4 4	100 4	4043.12	5 ⁻	E2		2.45×10 ⁻⁴ 3	B(E2)(W.u.)=9 +11-4
		1416.8 6	27.3 18	3707.47	6 ⁺	(E1)		2.62×10 ⁻⁴ 4	B(E1)(W.u.)=1.4×10 ⁻⁵ +17-6
5131.41	(6 ⁻)	1088.0 4	100	4043.12	5 ⁻	(M1+E2)	-2.5 13	2.37×10 ⁻⁴ 9	B(M1)(W.u.)<0.01; B(E2)(W.u.)<34 δ: weighted average of -3.1 to -0.1 in (³⁶ Ar,2pγ); and -4.3 +22-20 in (⁶ Li,pnγ). Other: 0.00 20 in (³ He,2nγ).
5143.70	7 ⁺	795.8 3	29 6	4347.91	6 ⁺	(M1+E2)		0.00046 6	I _γ : unweighted average of 34.9 25 in (³⁶ Ar,2pγ); and 23 3 in (³ He,2nγ). δ: δ=-0.23 +13-32 or -2.6 +10-19. B(M1)(W.u.)=0.023 +12-9 if M1, B(E2)(W.u.)=65 +34-25 if E2.
5210.92	(1 ⁺)	1557.2 6	100 5	3586.56	5 ⁺	E2		2.21×10 ⁻⁴ 3	B(E2)(W.u.)=7.8 +39-27
		1836.9 4	3.9 16	3374.24	1 ⁻				
		2062.8 & 2	2.6 20	3148.02	(0 ⁺ ,1 ⁻ ,2 ⁺)				
		2164.4 & 5	1.8 10	3046.40	0 ⁺				
		2407.8 3	18.9 24	2803.24	2 ⁺				
		2870.5 5	17.9 7	2342.37	0 ⁺				E _γ : poor fit. Level-energy difference=2868.5.
		3405.8 5	12.9 21	1804.66	2 ⁺				
		4256.9 1	64.5 32	953.86	2 ⁺				
		5210.6 1	100 16	0.0	0 ⁺				
5394.08	(1 ⁺)	2589.9 7	10 5	2803.24	2 ⁺				
		3051.6 7	31 11	2342.37	0 ⁺				
		3589.6 4	100 25	1804.66	2 ⁺				
5481.2	8 ⁺	1773.8 7	100	3707.47	6 ⁺	E2		2.91×10 ⁻⁴ 4	B(E2)(W.u.)=7.9 +26-25
5507.65	(1 ⁺)	2166.7 & 4	17 11	3340.51	(0 ⁺ ,1,2 ⁻)				
		2624.2 4	34 13	2883.86	2 ⁺				
		2704.4 3	100 16	2803.24	2 ⁺				
		3164.1 7	20 19	2342.37	0 ⁺				
		5508.0 7	43 15	0.0	0 ⁺				
5583.77?	(1 ⁺)	5583.5 & 4	100	0.0	0 ⁺				
5693.2	7 ⁽⁻⁾	1650.9 12	100 10	4043.12	5 ⁻	Q			

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. #	α @	Comments
5693.2	7 ⁽⁻⁾	1985.1 16	81 19	3707.47	6 ⁺	D		
5878.6	(7 ⁺ , 8 ⁺)	2171.0 9	100	3707.47	6 ⁺			
5910.56	(8 ⁺)	1562.8 9	21 7	4347.91	6 ⁺			
		2203.2 11	100 11	3707.47	6 ⁺			
5919.78	(1 ⁺)	3577.7 & 6	7 5	2342.37	0 ⁺			
		5919.2 5	100 33	0.0	0 ⁺			
6081.55	9 ⁻	171.0 3	0.22 4	5910.56	(8 ⁺)	[E1]	0.01182 18	B(E1)(W.u.)=5×10 ⁻⁵ +6-3
		1176.7 4	100.0 30	4904.73	7 ⁻	E2	2.08×10 ⁻⁴ 3	B(E2)(W.u.)=4.4 +49-21
6113.50	(8 ⁻)	981.8 4	13.7 11	5131.41	(6 ⁻)	Q		
		990.2 6	3.4 7	5123.88	7 ⁻	D+Q		
		1208.8 5	100 5	4904.73	7 ⁻	D+Q		δ : δ =+0.35 5 or +2.8 +5-4.
6304.4	7 ⁽⁺⁾	1160.8 11	39 17	5143.70	7 ⁺			
		1954.9 17	35 4	4347.91	6 ⁺			
		2073.0 12	57 4	4230.7	(5 ⁺)			
		2597.6 17	57 4	3707.47	6 ⁺			
		2716.3 16	100 4	3586.56	5 ⁺	Q		
6342.8	(8 ⁻)	1219.0 7	100	5123.88	7 ⁻	D+Q		δ : δ =-0.22 +8-12 or -2.3 6.
6444.7	(8 ⁺)	2097.1 12	100	4347.91	6 ⁺	(Q)		
6630.92	9 ⁽⁻⁾	549.6 8	1.95 24	6081.55	9 ⁻			
		720.5 10	2.68 24	5910.56	(8 ⁺)			
		1507.2 6	100 5	5123.88	7 ⁻	Q		
6964.6	9 ⁽⁺⁾	1085.8 11	22 4	5878.6	(7 ⁺ , 8 ⁺)			
		1483.3 13	10.8 27	5481.2	8 ⁺			
		1821.0 10	100 7	5143.70	7 ⁺	Q		
7024.2	(9 ⁻)	1331.2 9	100 12	5693.2	7 ⁽⁻⁾	(Q)		
		1543.1 13	44 10	5481.2	8 ⁺	D		
7422.2	(11 ⁻)	1340.4 4	100	6081.55	9 ⁻	Q		
7422.8	(10 ⁻)	791.7 8	1.88 17	6630.92	9 ⁽⁻⁾	D+Q		
		1309.3 5	100 6	6113.50	(8 ⁻)	Q		
		1341.4 7	35 6	6081.55	9 ⁻	(D+Q)		
7444.8	9 ⁽⁻⁾	1331.1 9	48 10	6113.50	(8 ⁻)			
		1363.3 5	100 7	6081.55	9 ⁻	D		Mult.: $\Delta J=0$ transition.
7499.1	(10 ⁺)	2017.8 9	100	5481.2	8 ⁺	Q		
7738.9	(10 ⁻)	1108.2 4	100 4	6630.92	9 ⁽⁻⁾	D+Q		
		1396.4 10	50.9 28	6342.8	(8 ⁻)	Q		
7975.47	9 ⁽⁺⁾	1011.0 9	7.7 10	6964.6	9 ⁽⁺⁾			
		1531.2 13	7.7 10	6444.7	(8 ⁺)			
		1632.6 12	32 5	6342.8	(8 ⁻)	D		
		1670.4 7	43.3 19	6304.4	7 ⁽⁺⁾	Q		
		1862.2 13	23.1 29	6113.50	(8 ⁻)	D		

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	Comments
7975.47	9 ⁽⁺⁾	1894.2 8	44.2 29	6081.55	9 ⁻	D	Mult.: $\Delta J=0$ transition.
		2065.0 18	16.4 29	5910.56	(8 ⁺)	D+Q	
		2831.9 14	100 9	5143.70	7 ⁺	Q	
7984.9	(10 ⁺)	961.0 9	100 12	7024.2	(9 ⁻)	D	
		1353.6 12	18 6	6630.92	9 ⁽⁻⁾		
		1902.7 17	31 10	6081.55	9 ⁻		
8436.96	(10 ⁺)	1806.0 17	2.7 6	6630.92	9 ⁽⁻⁾		
		2354.9 12	100 6	6081.55	9 ⁻	D	
8479.91	(10)	1056.1 6	100 12	7422.2	(11 ⁻)	D	
		1515.3 15	32 8	6964.6	9 ⁽⁺⁾		
		2398.3 17	56 8	6081.55	9 ⁻		
8489.7	(11 ⁻)	1859.0 11	100	6630.92	9 ⁽⁻⁾	(Q)	
9024.4	(12 ⁻)	1601.7 7	100 8	7422.8	(10 ⁻)	Q	
		1602.7 8	44 5	7422.2	(11 ⁻)	D+Q	
9047.76	(11 ⁺)	566.6 6	9.3 10	8479.91	(10)	D	
		610.9 6	9.0 10	8436.96	(10 ⁺)	D+Q	
		1072.2 7	100 4	7975.47	9 ⁽⁺⁾	Q	
		1310.0 8	17.2 14	7738.9	(10 ⁻)		
		1548.6 12	3.8 7	7499.1	(10 ⁺)	D+Q	
		1625.0 9	51.4 21	7422.8	(10 ⁻)	D	
		2083.0 18	4.5 4	6964.6	9 ⁽⁺⁾		
9083.4	(11 ⁻)	603.2 7	24 5	8479.91	(10)		
		1638.7 8	100 8	7444.8	9 ⁽⁻⁾	Q	
		1661.7 10	52 6	7422.2	(11 ⁻)		
		3002.1 12	81 5	6081.55	9 ⁻		
9213.7	(13 ⁻)	1791.3 6	100	7422.2	(11 ⁻)	Q	
9464.67	(12 ⁺)	416.9 2	35.0 12	9047.76	(11 ⁺)	D+Q	
		974.8 10	3.5 7	8489.7	(11 ⁻)		
		1027.6 4	50.0 26	8436.96	(10 ⁺)	Q	
		1479.8 9	19.2 14	7984.9	(10 ⁺)	Q	
		1965.5 18	2.1 5	7499.1	(10 ⁺)		
		2042.5 11	100 4	7422.2	(11 ⁻)	D	
9681.7	(12 ⁻)	1192.7 13	61 6	8489.7	(11 ⁻)		
		1942.0 14	100 11	7738.9	(10 ⁻)	Q	
9822.8	(12 ⁺)	2401.7 9	100	7422.2	(11 ⁻)	D	
9865.7	(11 ⁺)	2442.9 13	100	7422.2	(11 ⁻)	D	
9959.73	(13 ⁺)	495.1 5	3.7 5	9464.67	(12 ⁺)		
		911.2 8	100 5	9047.76	(11 ⁺)	Q	
		935.7 8	31.2 16	9024.4	(12 ⁻)	D	
10241.7	(11 ⁺)	1761.3 15	38 6	8479.91	(10)		
		1804.7 15	41 9	8436.96	(10 ⁺)		

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ	Comments
10241.7	(11 ⁺)	2742.2 18	100 12	7499.1	(10 ⁺)	D+Q		
		2819.9 19	79 9	7422.2	(11 ⁻)	D		Mult.: $\Delta J=0$ transition.
10374.58	(14 ⁺)	414.8 4	1.00 7	9959.73	(13 ⁺)	D+Q		
		909.6 6	17.1 7	9464.67	(12 ⁺)	Q		
		1160.9 5	100.0 33	9213.7	(13 ⁻)	D		
10456.8	(13 ⁻)	1966.9 15	100	8489.7	(11 ⁻)	Q		
10630.56	(12 ⁺)	388.8 4	40.3 17	10241.7	(11 ⁺)	D(+Q)	+0.06 +8-9	
		1547.2 6	100.0 33	9083.4	(11 ⁻)	D		
		1582.6 12	5.4 8	9047.76	(11 ⁺)			
		2645.6 21	4.9 12	7984.9	(10 ⁺)			
		3132.1 19	11.9 12	7499.1	(10 ⁺)	Q		
		3208.4 18	25.9 12	7422.2	(11 ⁻)	D		
10725.3	(14 ⁻)	1511.6 7	19.5 21	9213.7	(13 ⁻)	D+Q	+0.11 +5-6	
		1701.0 9	100 5	9024.4	(12 ⁻)	Q		
11177.76	(13 ⁺)	547.2 2	100.0 26	10630.56	(12 ⁺)	D+Q	+0.16 4	
		936.1 7	21.2 10	10241.7	(11 ⁺)	Q		
		1311.8 9	6.5 8	9865.7	(11 ⁺)			
		1712.2 13	3.8 8	9464.67	(12 ⁺)			
		2154.0 14	10.9 8	9024.4	(12 ⁻)	D		
11545.8	(14 ⁺)	1723.7 7	100 5	9822.8	(12 ⁺)	Q		
		2333.1 13	55 4	9213.7	(13 ⁻)	D		
11651.1	(13 ⁻)	1021.2 11	14 5	10630.56	(12 ⁺)			
		2187.0 19	15.3 34	9464.67	(12 ⁺)			
		2436.1 16	53 9	9213.7	(13 ⁻)			
		2626.3 16	52.5 34	9024.4	(12 ⁻)			
		4228.0 28	100 10	7422.2	(11 ⁻)	Q		
11751.08	(14 ⁺)	573.3 2	100.0 29	11177.76	(13 ⁺)	D+Q	+0.12 +4-5	
		1120.0 11	65.6 18	10630.56	(12 ⁺)	Q		
		2286.6 18	3.6 7	9464.67	(12 ⁺)			
		2537.4 14	27.0 18	9213.7	(13 ⁻)	D		
11786.6	(15 ⁺)	1826.7 9	100	9959.73	(13 ⁺)	Q		
11961.0	(16 ⁺)	1586.4 5	100	10374.58	(14 ⁺)	Q		
12046.1	(14 ⁻)	1589.2 13	100 9	10456.8	(13 ⁻)			
		2364.5 19	28.1 31	9681.7	(12 ⁻)			
12276.6	(15 ⁺)	1901.8 7	100	10374.58	(14 ⁺)	D+Q		
12329.1	(14 ⁻)	678.0 3	59.6 21	11651.1	(13 ⁻)	D+Q	+0.15 5	
		1151.6 7	12.9 8	11177.76	(13 ⁺)	D		
		1604.1 13	6.7 21	10725.3	(14 ⁻)			
		2369.4 17	9.6 17	9959.73	(13 ⁺)			
		3115.2 18	100 8	9213.7	(13 ⁻)	(D+Q)		
		3304.9 14	4.6 8	9024.4	(12 ⁻)			
12531.5	(15 ⁺)	780.4 3	100.0 30	11751.08	(14 ⁺)	D+Q	+0.15 +5-6	

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)							
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ
12531.5	(15 ⁺)	1353.3 8	79.5 26	11177.76	(13 ⁺)	Q	
		2156.9 17	6.7 9	10374.58	(14 ⁺)		
12812.3	(15 ⁻)	1266.9 5	16.6 11	11545.8	(14 ⁺)	D	
		2355.4 20	1.2 4	10456.8	(13 ⁻)		
		2436.9 9	100 5	10374.58	(14 ⁺)	D	
		3597.1 22	2.28 21	9213.7	(13 ⁻)		
12831.4	(15 ⁻)	2374.6 14	100	10456.8	(13 ⁻)		
12992.6	(15 ⁻)	663.7 3	100.0 31	12329.1	(14 ⁻)	D+Q	+0.12 4
		1241.4 7	19.9 12	11751.08	(14 ⁺)	D	
		1341.4 8	31 10	11651.1	(13 ⁻)	Q	
		1446.8 10	2.7 4	11545.8	(14 ⁺)		
		3779.3 29	3.4 8	9213.7	(13 ⁻)	Q	
13156.2	(16 ⁺)	1610.3 10	100	11545.8	(14 ⁺)	Q	
13230.9	(16 ⁺)	699.4 3	72.9 22	12531.5	(15 ⁺)	D+Q	+0.11 +4-5
		1479.6 7	100.0 32	11751.08	(14 ⁺)	Q	
		2856.2 21	5.7 6	10374.58	(14 ⁺)		
13725.9	(16 ⁻)	733.5 3	100.0 23	12992.6	(15 ⁻)	D+Q	+0.07 +3-4
		913.6 5	8.6 8	12812.3	(15 ⁻)	D+Q	+0.16 6
		1193.9 9	8.0 12	12531.5	(15 ⁺)	D	
		1396.4 7	95.8 32	12329.1	(14 ⁻)	Q	
13782.3	(17 ⁺)	1505.6 8	22.3 11	12276.6	(15 ⁺)	Q	
		1821.3 5	100 6	11961.0	(16 ⁺)	D+Q	
13964.4	(16 ⁺)	3589.7 17	100	10374.58	(14 ⁺)	(Q)	
14119.0	(17 ⁺)	888.0 4	100.0 31	13230.9	(16 ⁺)	D+Q	+0.18 +5-6
		1587.7 10	65.9 20	12531.5	(15 ⁺)	Q	
		2157.7 20	14.2 17	11961.0	(16 ⁺)	D+Q	
14343.8	(16 ⁻)	3618.4 10	100	10725.3	(14 ⁻)	(Q)	
14429.8	(16 ⁺)	4055.0 27	100	10374.58	(14 ⁺)	(Q)	
14444.8	(17 ⁻)	718.8 3	22.8 10	13725.9	(16 ⁻)	D+Q	+0.10 +6-7
		1214.2 10	2.44 20	13230.9	(16 ⁺)		
		1288.8 8	4.5 10	13156.2	(16 ⁺)		
		1452.1 12	2.03 20	12992.6	(15 ⁻)		
		1632.8 7	42.3 23	12812.3	(15 ⁻)	Q	
		2483.4 12	100 6	11961.0	(16 ⁺)	D	
14489.4	(15 ⁻)	4114.2 30	100 8	10374.58	(14 ⁺)	D	
		5275.0 35	75 8	9213.7	(13 ⁻)		
14540.8	(17 ⁻)	814.9 4	80.7 26	13725.9	(16 ⁻)	D+Q	+0.14 4
		1309.6 9	15.7 9	13230.9	(16 ⁺)	D	
		1384.2 10	3.6 5	13156.2	(16 ⁺)		
		1548.3 7	100 4	12992.6	(15 ⁻)	Q	
		2580.7 14	32.0 12	11961.0	(16 ⁺)	D	
14567.8	(15)	3842.4 21	100	10725.3	(14 ⁻)	D	

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)							
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ
14610.5		4235.8 28	100	10374.58	(14 ⁺)		
14644.5	(16 ⁺)	2858.3 20	100	11786.6	(15 ⁺)		
14831.1	(16 ⁺)	3043.5 21	100	11786.6	(15 ⁺)		
15020.7	(17)	3059.6 18	100	11961.0	(16 ⁺)	D	
15040.1	(16 ⁺)	3494.8 25	100	11545.8	(14 ⁺)		
15042.6	(18 ⁺)	923.6 5	89.3 31	14119.0	(17 ⁺)	D+Q	+0.18 5
		1811.3 8	100.0 35	13230.9	(16 ⁺)	Q	
15076.7	(17 ⁻)	1580.1 18	33 6	13496.5	(15 ⁻)		
		2264.7 17	24 6	12812.3	(15 ⁻)		
		3116.2 18	100 6	11961.0	(16 ⁺)	D	
15081.1	(16 ⁻)	2269.2 14	42 5	12812.3	(15 ⁻)		
		2803.9 17	45.7 26	12276.6	(15 ⁺)		
		4355.4 26	100 5	10725.3	(14 ⁻)	Q	
15281.2	(17 ⁺)	2050.6 17	100 13	13230.9	(16 ⁺)	D+Q	
		3495.4 29	88 13	11786.6	(15 ⁺)	Q	
15294.1	(18 ⁺)	2138.0 15	100	13156.2	(16 ⁺)		
15407.5	(17 ⁺)	3618.7 30	100	11786.6	(15 ⁺)		
15414.0	(18 ⁻)	873.2 4	44.2 14	14540.8	(17 ⁻)	D+Q	+0.16 4
		969.3 6	26.8 9	14444.8	(17 ⁻)	D+Q	
		1295.0 8	9.5 7	14119.0	(17 ⁺)		
		1688.4 7	100.0 35	13725.9	(16 ⁻)	Q	
15682.1		3721.0 24	100	11961.0	(16 ⁺)		
15704.5	(19 ⁻)	1259.6 4	100	14444.8	(17 ⁻)	Q	
15716.0	(17 ⁺)	3438.8 28	75 13	12276.6	(15 ⁺)		
		3754.6 29	63 13	11961.0	(16 ⁺)		
		3930.4 31	100 13	11786.6	(15 ⁺)		
15727.3		1383.5 14	100	14343.8	(16 ⁻)		
15750.1	(17 ⁻)	668.9 6	21.8 26	15081.1	(16 ⁻)		
		1260.7 8	100 8	14489.4	(15 ⁻)	Q	
		1306.0 11	19.2 13	14444.8	(17 ⁻)		
		1785.7 14	16.7 13	13964.4	(16 ⁺)		
		2518.6 17	27 4	13230.9	(16 ⁺)		
		3788.7 22	29.5 13	11961.0	(16 ⁺)	D	
15830.1	(17)	3869.0 27	100	11961.0	(16 ⁺)	D	
15869.7	(17 ⁻)	3908.9 31	100	11961.0	(16 ⁺)		
16101.6	(17 ⁻)	2870.8 22	41 12	13230.9	(16 ⁺)		
		4140.0 29	100 12	11961.0	(16 ⁺)	D	
16234.3	(17)	4273.2 32	100	11961.0	(16 ⁺)	D	
16323.2	(18 ⁺)	1893.4 11	100	14429.8	(16 ⁺)		
16365.1	(19 ⁺)	1322.8 9	100 7	15042.6	(18 ⁺)	D(+Q)	+0.04 6
		2245.3 15	53.0 33	14119.0	(17 ⁺)	Q	
16369.6	(17)	2047.7 20	100	14321.9			

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)							
$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	δ
16372.7	(19 ⁻)	959.0 5	71.0 32	15414.0 (18 ⁻)		D+Q	+0.19 +7-8
		1329.6 9	7.3 6	15042.6 (18 ⁺)			
		1831.4 8	100.0 32	14540.8 (17 ⁻)		Q	
		1927.6 10	43.9 16	14444.8 (17 ⁻)		Q	
16413.9		4452.8 26	100	11961.0 (16 ⁺)			
16443.9	(17)	4482.1 38	100	11961.0 (16 ⁺)			
16469.6	(18 ⁺)	4508.6 28	100	11961.0 (16 ⁺)		Q	
16500.4	(18 ⁻)	750.6 6	11.2 10	15750.1 (17 ⁻)			
		1419.6 10	100 9	15081.1 (16 ⁻)		Q	
16715.0	(18 ⁺)	1675.3 11	39 4	15040.1 (16 ⁺)			
		1883.7 10	55 6	14831.1 (16 ⁺)		Q	
		2070.7 12	100 6	14644.5 (16 ⁺)		Q	
		2270.5 17	21.6 20	14444.8 (17 ⁻)			
		4752.4 38	26 4	11961.0 (16 ⁺)		Q	
16817.2	(18 ⁺)	1776.9 8	100 6	15040.1 (16 ⁺)		Q	
		1832.7 9	58 5	14984.5			
		2372.7 19	18.5 16	14444.8 (17 ⁻)			
		4856.4 32	20.0 31	11961.0 (16 ⁺)			
16874.2		3091.8 23	100	13782.3 (17 ⁺)			
16901.0	(19 ⁻)	1196.0 13	9.5 32	15704.5 (19 ⁻)			
		1824.7 11	100 4	15076.7 (17 ⁻)		Q	
		2456.2 20	16 4	14444.8 (17 ⁻)			
17035.2		5074.0 32	100	11961.0 (16 ⁺)			
17338.5	(19 ⁻)	838.2 5	17.4 18	16500.4 (18 ⁻)		D+Q	
		1587.5 9	100 7	15750.1 (17 ⁻)		Q	
17350.2	(18 ⁺)	1867.9 11	100 10	15482.3 (16 ⁺)		Q	
		5387.9 41	55 7	11961.0 (16 ⁺)		Q	
17365.1	(18 ⁻)	3638.7 33	100	13725.9 (16 ⁻)			
17400.1		3617.7 27	100	13782.3 (17 ⁺)			
17407.5	(18 ⁻)	2962.9 28	100 17	14444.8 (17 ⁻)		D+Q	
		3682.0 34	50 17	13725.9 (16 ⁻)			
17454.0		1623.9 13	100	15830.1 (17)			
17477.8	(20 ⁻)	1105.1 6	68.6 26	16372.7 (19 ⁻)		D+Q	
		1112.6 12	1.79 20	16365.1 (19 ⁺)			
		2063.8 10	100.0 34	15414.0 (18 ⁻)		Q	
17488.7	(19 ⁺)	2080.8 11	54 8	15407.5 (17 ⁺)			
		2207.9 14	100 17	15281.2 (17 ⁺)		Q	
17578.7	(19 ⁻)	1709.1 17	50 11	15869.7 (17 ⁻)			
		3134.4 26	100 22	14444.8 (17 ⁻)		Q	
17582.4	(20 ⁺)	1217.3 11	39.4 30	16365.1 (19 ⁺)		D+Q	
		2539.7 14	100 8	15042.6 (18 ⁺)		Q	
17646.3	(18 ⁺)	1850.2 16	100 18	15796.0 (16 ⁺)			

Adopted Levels, Gammas (continued) $\gamma(^{62}\text{Zn})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	δ
17646.3	(18 ⁺)	5685.0 38	55 9	11961.0	(16 ⁺)		
17665.9		3883.5 25	100	13782.3	(17 ⁺)		
17696.7	(19 ⁺)	1980.6 11	100	15716.0	(17 ⁺)		
17748.8		3966.4 31	100	13782.3	(17 ⁺)		
17764.1	(19 ⁻)	1662.4 10	100	16101.6	(17 ⁻)	Q	
17843.7		5882.4 42	100	11961.0	(16 ⁺)		
18020.3		4237.9 34	100	13782.3	(17 ⁺)		
18239.9	(20 ⁻)	2535.1 16	100	15704.5	(19 ⁻)	D+Q	
18286.5	(20 ⁻)	948.1 10	4.4 13	17338.5	(19 ⁻)		
		1786.3 9	100 6	16500.4	(18 ⁻)	Q	
		2581.8 15	26.1 19	15704.5	(19 ⁻)	D+Q	
18416.1	(19 ⁻)	1842.0 13	100 17	16574.0	(17 ⁻)		
		2093.2 16	67 17	16323.2	(18 ⁺)		
		3002.9 26	83 17	15414.0	(18 ⁻)		
18502.0	(21 ⁻)	1024.6 6	23.1 12	17477.8	(20 ⁻)	D+Q	+0.18 9
		2129.1 11	100.0 32	16372.7	(19 ⁻)	Q	
18505.9	(19)	1828.0 17	67 11	16677.8			
		2061.8 19	61 11	16443.9	(17)		
		2136.2 16	100 11	16369.6	(17)		
		4061.4 33	22 11	14444.8	(17 ⁻)		
18516.4	(19 ⁺)	4734.0 28	100	13782.3	(17 ⁺)	Q	
18592.7		4810.2 36	100	13782.3	(17 ⁺)		
18677.1	(20 ⁺)	1859.7 10	100 5	16817.2	(18 ⁺)	Q	
		1962.3 11	92 4	16715.0	(18 ⁺)	Q	
		2207.0 18	8.6 19	16469.6	(18 ⁺)		
		2972.8 25	7.6 19	15704.5	(19 ⁻)		
18759.0	(20 ⁺)	2290.1 20	47 7	16469.6	(18 ⁺)		
		2435.3 15	100 13	16323.2	(18 ⁺)		
19093.1	(21 ⁻)	2192.0 12	100	16901.0	(19 ⁻)	Q	
19177.0		3472.4 24	100	15704.5	(19 ⁻)		
19305.1	(21 ⁻)	1018.9 11	5.2 6	18286.5	(20 ⁻)		
		1966.4 10	100 4	17338.5	(19 ⁻)	Q	
19399.9	(20 ⁻)	1891.3 15	67 6	17508.6	(18 ⁻)		
		1992.5 14	100 6	17407.5	(18 ⁻)		
		2034.7 14	83 11	17365.1	(18 ⁻)		
		2081.7 17	50 6	17318.2	(18 ⁻)		
		3027.4 24	44 11	16372.7	(19 ⁻)		
		3984.9 31	61 6	15414.0	(18 ⁻)	(Q)	
19477.1	(20 ⁺)	2126.8 12	100 7	17350.2	(18 ⁺)	Q	
		4183.5 31	9.3 13	15294.1	(18 ⁺)		
19486.0	(21 ⁻)	3780.8 25	100	15704.5	(19 ⁻)	Q	
19498.1	(21 ⁺)	3132.9 23	100	16365.1	(19 ⁺)		

Adopted Levels, Gammas (continued)

 $\gamma(^{62}\text{Zn})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#	$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult.#
19676.6	(22 ⁻)	1174.8 6	57.9 35	18502.0	(21 ⁻)		22243.6	(23 ⁻)	2757.4 23	14 5	19486.0	(21 ⁻)	
		2197.0 13	100 5	17477.8	(20 ⁻)	Q	22567.8	(23 ⁺)	2135.5 14	100	20432.3	(21 ⁺)	Q
19677.4		2223.3 19	100	17454.0			22741.5		4239.3 40	100 2	18502.0	(21 ⁻)	
19702.7	(20 ⁺)	2056.4 14	100	17646.3	(18 ⁺)	Q	22782.5	(23 ⁻)	2309.2 14	100 9	20473.5	(21 ⁻)	Q
19757.1	(21 ⁻)	2178.6 13	100	17578.7	(19 ⁻)	Q			3105.5 29	20.0 22	19676.6	(22 ⁻)	
19773.9		4731.1 38	100	15042.6	(18 ⁺)		22794.3	(23 ⁺)	2135.9 15	20 7	20658.5	(21 ⁺)	
19777.7	(21 ⁻)	2013.5 13	100	17764.1	(19 ⁻)	Q			2173.8 11	73 7	20620.4	(21 ⁺)	
20026.8		3654.2 30	100 13	16372.7	(19 ⁻)				2707.8 22	100 7	20086.1	(21 ⁺)	Q
		4321.8 37	33 13	15704.5	(19 ⁻)		22822.6		4320.4 33	100	18502.0	(21 ⁻)	
20086.1	(21 ⁺)	2389.4 14	76 6	17696.7	(19 ⁺)	Q	22866.0	(23 ⁺)	2207.3 15	100 12	20658.5	(21 ⁺)	Q
		2597.4 13	100 9	17488.7	(19 ⁺)	Q			2780.1 24	45 5	20086.1	(21 ⁺)	Q
20432.3	(21 ⁺)	1915.8 11	100	18516.4	(19 ⁺)	Q	23024.4		2242.3 19	100	20782.0		
20441.8	(22 ⁻)	1136.8 11	4.1 12	19305.1	(21 ⁻)		23028.6	(23 ⁻)	4525.3 35	100	18502.0	(21 ⁻)	Q
		2155.4 13	100 4	18286.5	(20 ⁻)	Q	23071.5	(24 ⁻)	1388.4 14	100	21682.6	(23 ⁻)	
		2201.6 17	18.0 12	18239.9	(20 ⁻)	Q			2630.2 15	100	20441.8	(22 ⁻)	Q
20473.5	(21 ⁻)	2057.8 12	100 16	18416.1	(19 ⁻)	Q	23079.4		3402.7 25	100	19676.6	(22 ⁻)	
		2994.0 30	19.4 32	17477.8	(20 ⁻)	D	23179.2	(24 ⁻)	2142.2 16	41.5 31	21036.8	(23 ⁻)	
20658.5	(21 ⁺)	1933.7 13	100	18724.8	(19 ⁺)				3502.7 21	100 8	19676.6	(22 ⁻)	Q
20782.0		5077.3 41	100	15704.5	(19 ⁻)		23184.4		4682.2 38	100	18502.0	(21 ⁻)	
20851.3	(21)	2345.4 19	100	18505.9	(19)		23274	(22)	2175.6 18	100	21098		
20856.9	(22 ⁺)	2179.8 12	100	18677.1	(20 ⁺)	Q	23341.6	(24 ⁺)	2484.6 14	100	20856.9	(22 ⁺)	Q
21036.8	(23 ⁻)	1360.2 5	44.2 25	19676.6	(22 ⁻)	D+Q	23376.6	(22)	1551.8 13	100 12	21824.8		
		2535.0 13	100.0 37	18502.0	(21 ⁻)	Q			1774.1 12	71 12	21602.5	(21 ⁻)	D
21189.9		5485.1 42	100	15704.5	(19 ⁻)		23408.0		4905.8 43	100	18502.0	(21 ⁻)	
21197.1	(21)	3719.2 31	100	17477.8	(20 ⁻)	D	23467.0	(23)	2615.6 22	100	20851.3	(21)	
21316.2	(21)	3838.3 29	100	17477.8	(20 ⁻)	D	23625.1		2221.8 18	100	21403.3	(22 ⁺)	
21401.4	(22 ⁻)	3923.5 29	100	17477.8	(20 ⁻)	(Q)	23761.6		5259.3 44	100	18502.0	(21 ⁻)	
21403.3	(22 ⁺)	2644.2 20	100	18759.0	(20 ⁺)		24053.7	(24 ⁻)	2439.3 10	100 5	21614.4	(22 ⁻)	Q
21468.1		2709.0 21	100	18759.0	(20 ⁺)				4377.1 34	5.3 8	19676.6	(22 ⁻)	
21602.5	(21 ⁻)	5897.7 46	100	15704.5	(19 ⁻)		24307.9	(24 ⁻)	4631.2 37	100	19676.6	(22 ⁻)	Q
21614.4	(22 ⁻)	2014.9 13	12.3 19	19599.4	(20 ⁻)		24468.3	(24 ⁺)	2616.4 14	100	21851.9	(22 ⁺)	Q
		2214.4 9	100 8	19399.9	(20 ⁻)	Q	24607.3	(25 ⁻)	2924.6 17	100	21682.6	(23 ⁻)	Q
21682.6	(23 ⁻)	1240.5 13	5.1 17	20441.8	(22 ⁻)		24692.1	(24 ⁺)	2662.3 18	100	22029.7	(22 ⁺)	Q
		2377.3 13	100 4	19305.1	(21 ⁻)	Q	24725.6	(25 ⁻)	3038.6 18	100	21686.9	(23 ⁻)	Q
21686.9	(23 ⁻)	2593.8 14	100	19093.1	(21 ⁻)	Q	24912.7	(25 ⁻)	2785.5 16	100	22127.1	(23 ⁻)	Q
21851.9	(22 ⁺)	2374.7 12	100	19477.1	(20 ⁺)	Q	25145.2	(25 ⁺)	2577.4 16	100	22567.8	(23 ⁺)	Q
22029.7	(22 ⁺)	2327.0 15	100	19702.7	(20 ⁺)	Q	25162.1	(25 ⁻)	2918.5 17	100	22243.6	(23 ⁻)	Q
22127.1	(23 ⁻)	2349.5 13	83 5	19777.7	(21 ⁻)	Q	25338.5	(25 ⁺)	2472.4 13	62 7	22866.0	(23 ⁺)	Q
		2370.0 11	100 8	19757.1	(21 ⁻)	Q			2544.2 12	100 7	22794.3	(23 ⁺)	Q
		2640.7 22	18 5	19486.0	(21 ⁻)		25347.1	(25 ⁻)	2564.8 14	100	22782.5	(23 ⁻)	Q
22243.6	(23 ⁻)	2465.7 14	100 7	19777.7	(21 ⁻)	Q	25402.1	(24)	2025.4 13	100 7	23376.6	(22)	Q
		2486.8 21	7.0 23	19757.1	(21 ⁻)				2128.2 13	93 10	23274	(22)	Q

Adopted Levels, Gammas (continued)

$\gamma(^{62}\text{Zn})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]
25438.3		4401.3 38	100	21036.8 (23 ⁻)			29473.8	(28 ⁺)	3299.8 26	100	26173.9 (26 ⁺)		Q
25478.9	(25 ⁻)	2450.1 13	100	23028.6 (23 ⁻)			29682.6	(28 ⁻)	2938.8 18	100	26743.7 (26 ⁻)		Q
25660.4	(25 ⁻)	4623.4 26	100	21036.8 (23 ⁻)	Q		29818	(27)	3356.4 32	100	26461.6 (25)		
25880.3		4843.3 36	100	21036.8 (23 ⁻)			30370	(28)	2652.3 19	100	27718 (26)	Q	
25989.7		4952.7 39	100	21036.8 (23 ⁻)			30434.7	(28 ⁺)	3117.7 21	100	27316.9 (26 ⁺)	(Q)	
26173.9	(26 ⁺)	2832.2 20	100	23341.6 (24 ⁺)	Q		30508.0	(28 ⁻)	4185.0 37	100	26322.9 (26 ⁻)		
26228.2		5191.1 41	100	21036.8 (23 ⁻)			31213.0	(29 ⁻)	2967.8 22	30 20	28244.8 (27 ⁻)		
26322.9	(26 ⁻)	3251.3 18	100	23071.5 (24 ⁻)	Q				3050.6 23	100 20	28162.7 (27 ⁻)		
26461.6	(25)	2994.6 17	100	23467.0 (23)			31397.8	(29 ⁻)	3152.9 23	100	28244.8 (27 ⁻)		
26743.7	(26 ⁻)	2689.9 12	100	24053.7 (24 ⁻)	Q		31542.7	(29 ⁺)	3336.9 29	100	28205.7 (27 ⁺)		
27316.9	(26 ⁺)	2848.5 17	100	24468.3 (24 ⁺)	Q		32916.7	(30 ⁻)	3234.0 25	100	29682.6 (28 ⁻)		
27718	(26)	2315.4 14	100	25402.1 (24)	Q		33360.6	(30 ⁺)	3886.7 31	100	29473.8 (28 ⁺)		
27764	(26 ⁺)	3071.5 28	100	24692.1 (24 ⁺)			33458	(30)	3088.3 24	100	30370 (28)		
28162.7	(27 ⁻)	2683.7 19	19 8	25478.9 (25 ⁻)			33791	(30 ⁺)	4316.8 34	100	29473.8 (28 ⁺)		
		2815.7 18	100 12	25347.1 (25 ⁻)	(Q)		33798.0	(30 ⁺)	3363.2 25	100	30434.7 (28 ⁺)		
28205.7	(27 ⁺)	2867.1 24	100 10	25338.5 (25 ⁺)	Q		34600.7	(31 ⁻)	3387.6 26	100	31213.0 (29 ⁻)		
		3060.4 25	21 7	25145.2 (25 ⁺)			35339	(31 ⁺)	3796.0 38	100	31542.7 (29 ⁺)		
28230.0	(27 ⁻)	3622.6 33	100	24607.3 (25 ⁻)	Q		36496.6	(32 ⁻)	3579.8 31	100	32916.7 (30 ⁻)		
28244.8	(27 ⁻)	2765.6 17	100 29	25478.9 (25 ⁻)			36897	(32)	3438.4 32	100	33458 (30)		
		2897.7 21	100 14	25347.1 (25 ⁻)			38366	(33 ⁻)	3765.4 34	100	34600.7 (31 ⁻)		
28369.2	(27 ⁻)	3456.4 25	100	24912.7 (25 ⁻)	(Q)		40455	(34 ⁻)	3958.3 37	100	36496.6 (32 ⁻)		
28555.2	(27 ⁻)	3829.5 31	100	24725.6 (25 ⁻)			40730	(34 ⁻)	4233.7 40	100	36496.6 (32 ⁻)		
28745.4	(27 ⁻)	3583.1 33	100	25162.1 (25 ⁻)			42519	(35 ⁻)	4152.6 39	100	38366 (33 ⁻)		

[†] From ²⁸Si(³⁶Ar,2p γ),⁴⁰Ca(²⁸Si, α 2p γ), unless otherwise indicated. Note that above excitation energy of 7430 keV, γ -ray data are available only from this reaction. Below this energy, γ -ray data are available from (⁶Li,pn γ) up to 7422 keV; from (³He,2n γ) up to 5481 keV, and from (p,2n γ) and (³He,2n γ) up to 4903 keV; and only low-spin ($J \leq 2$) data from ⁶²Ga ε decay up to 5920 keV.

[‡] From ⁶²Ga ε decay.

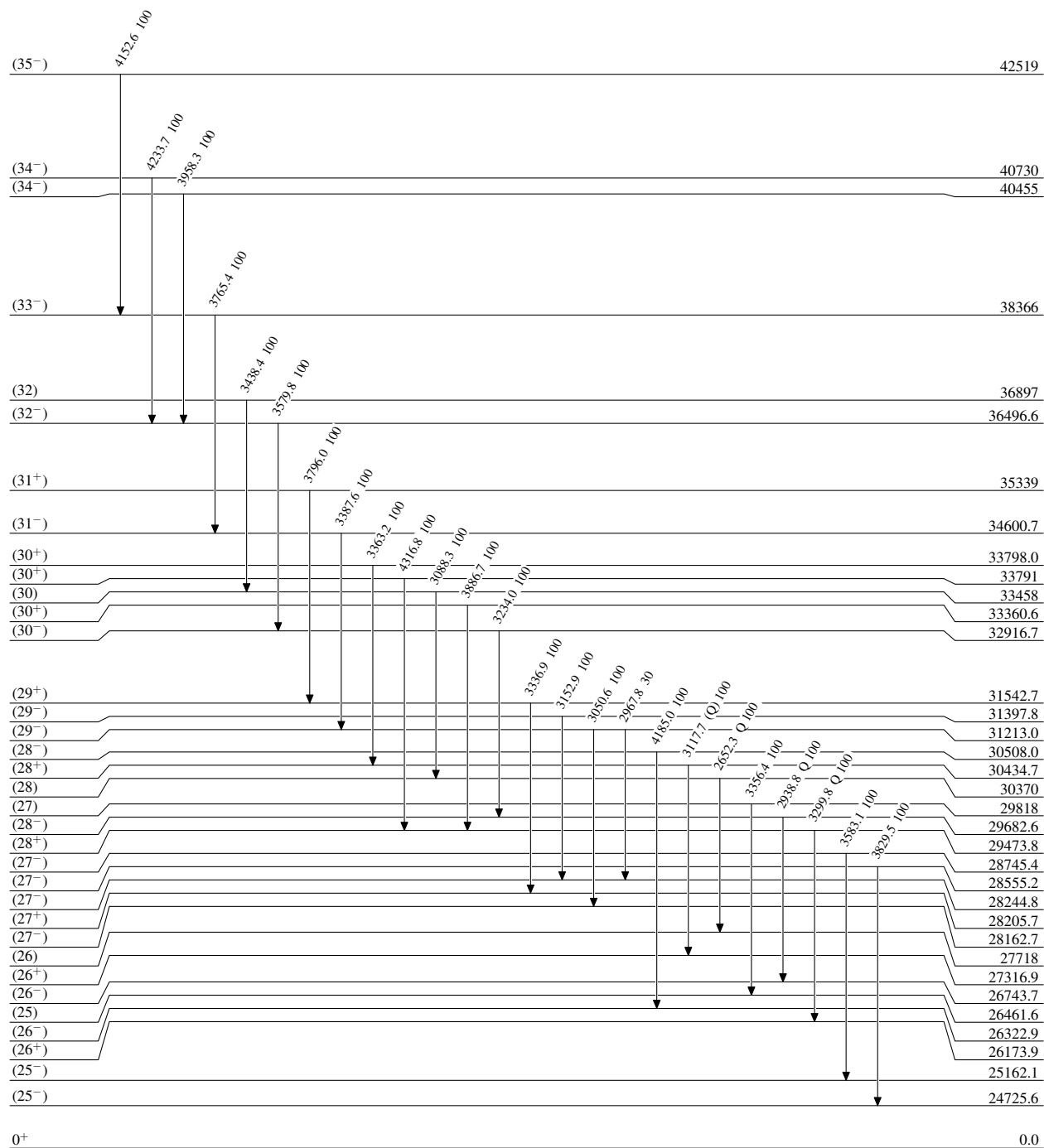
[#] From $\gamma\gamma(\theta)$ (DCO), $\gamma\gamma(\theta)$ and $\gamma(\theta)$ in in-beam γ -ray data, combined with RUL for E2 and M2 when level half-lives are known. Above excitation energy of 7430 keV, multiplicities are only from $\gamma\gamma(\theta)$ (DCO) data in ²⁸Si(³⁶Ar,2p γ),⁴⁰Ca(²⁸Si, α 2p γ), where assignments in this dataset are mult=Q for stretched quadrupole, (most likely E2), and mult=D or D+Q for stretched dipole, where mult=D is E1 or M1, and mult=D+Q is most likely M1+E2. In rare cases of $\Delta J=0$ transitions, mult=D is E1 or M1.

[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with "Frozen Orbitals" approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

[&] Placement of transition in the level scheme is uncertain.

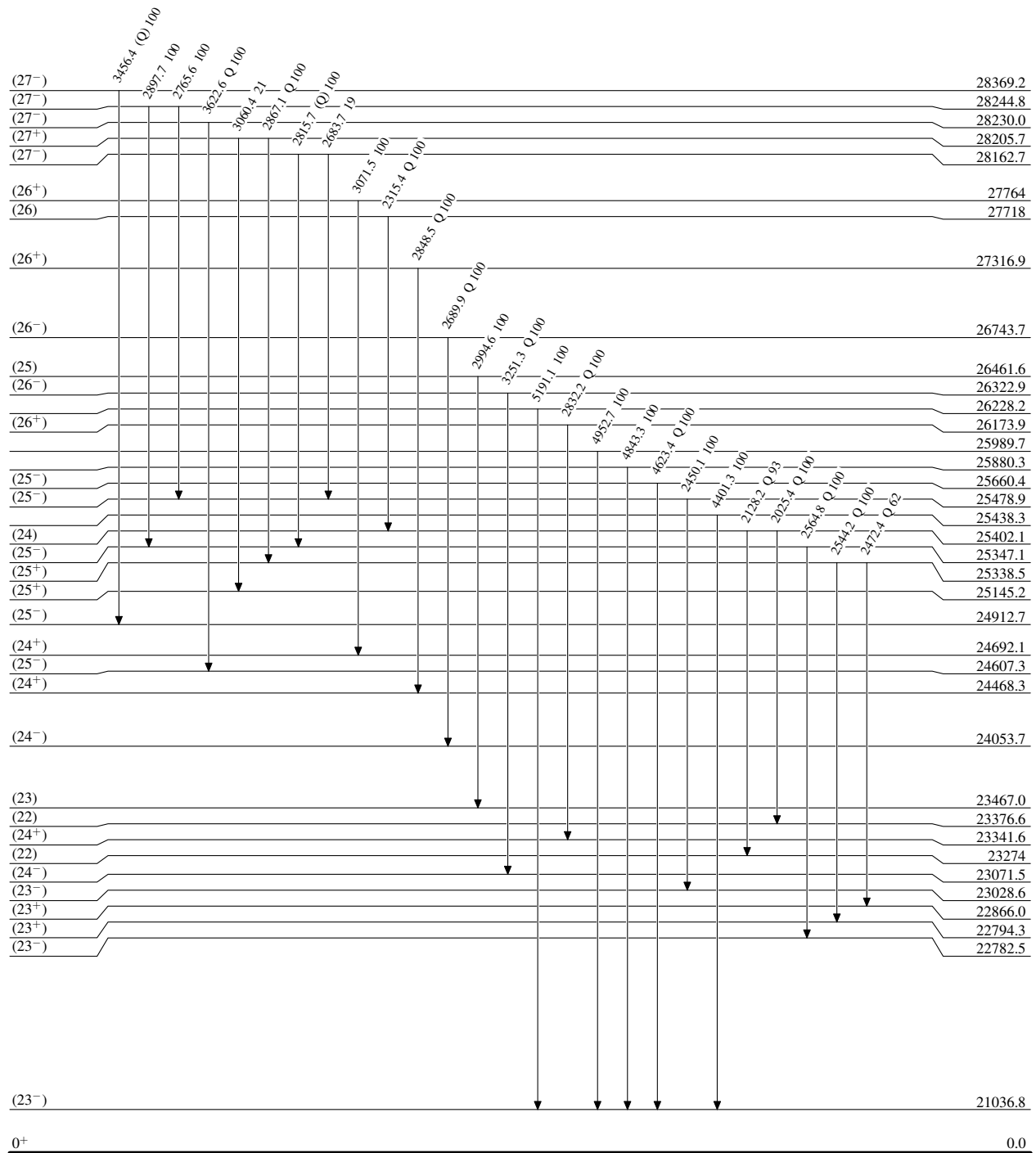
Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level



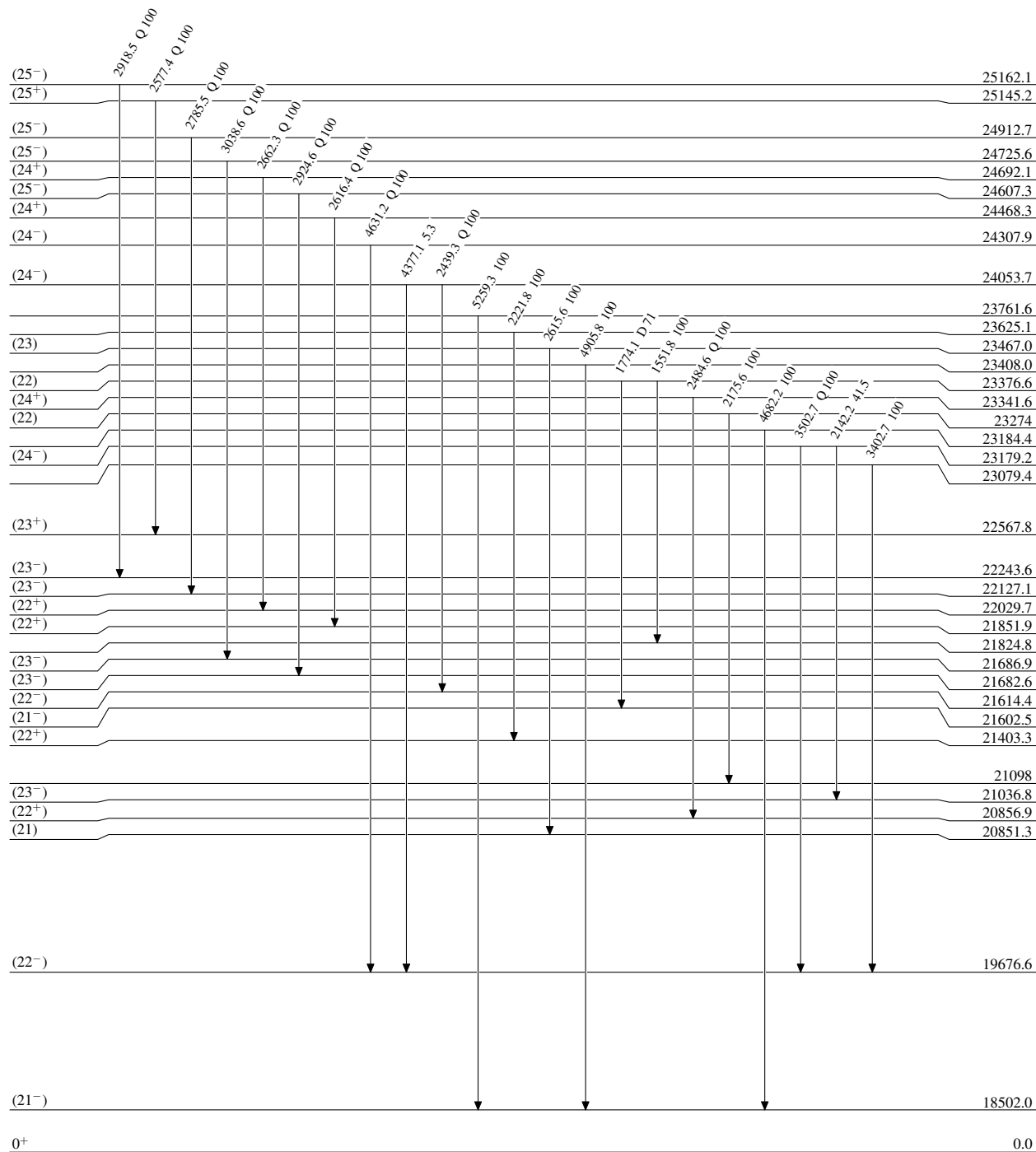
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, GammasLevel Scheme (continued)

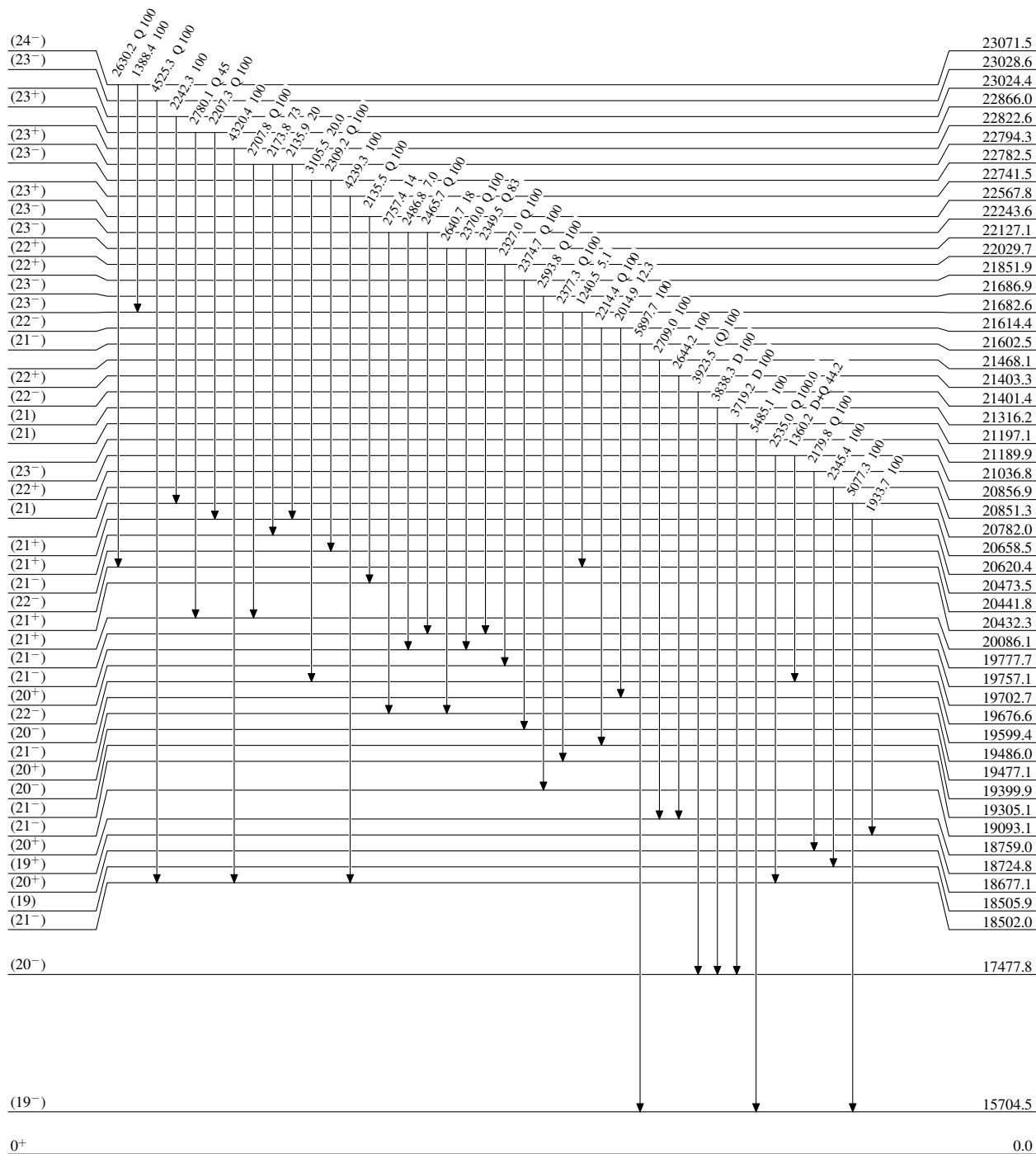
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

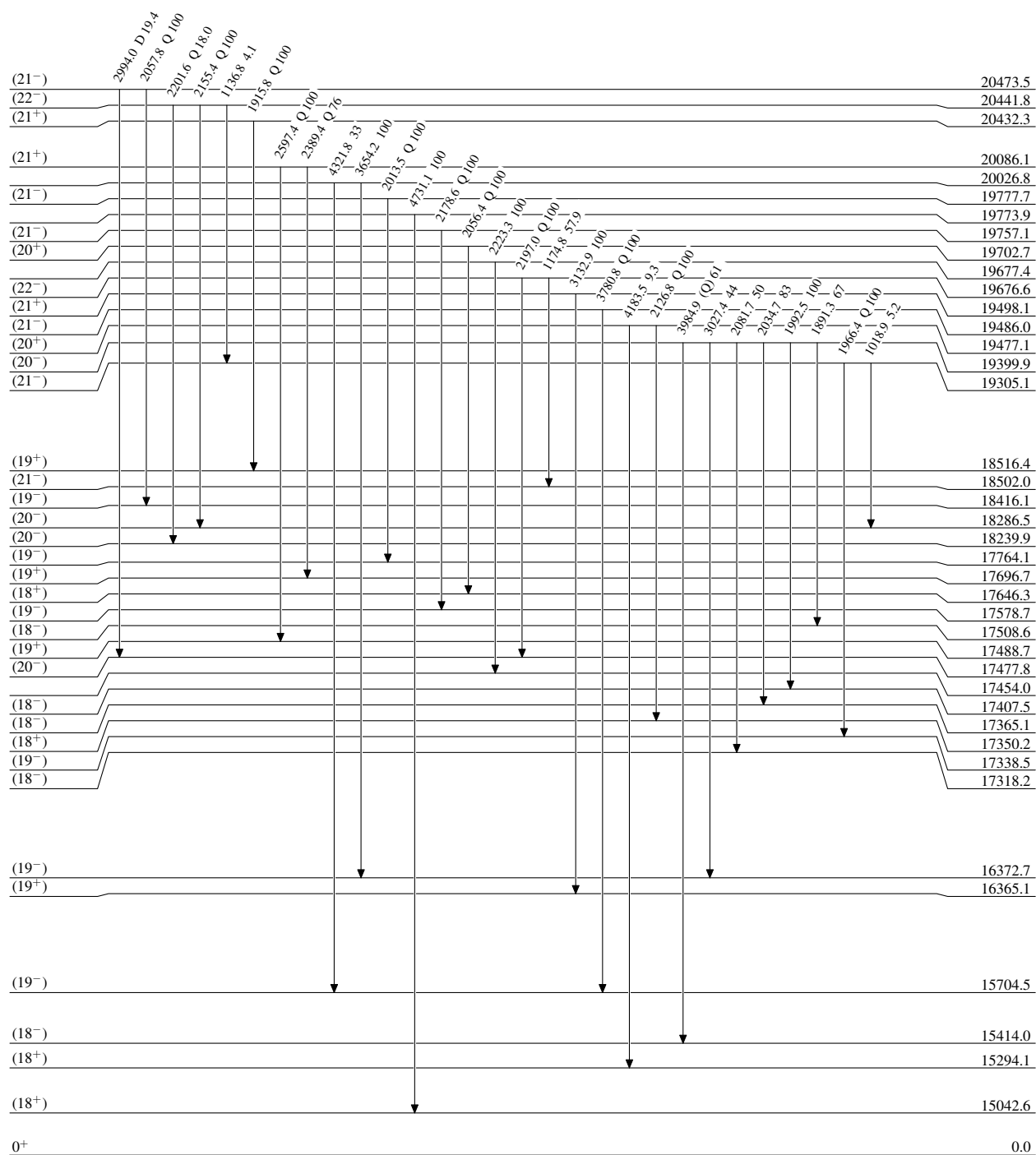
Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

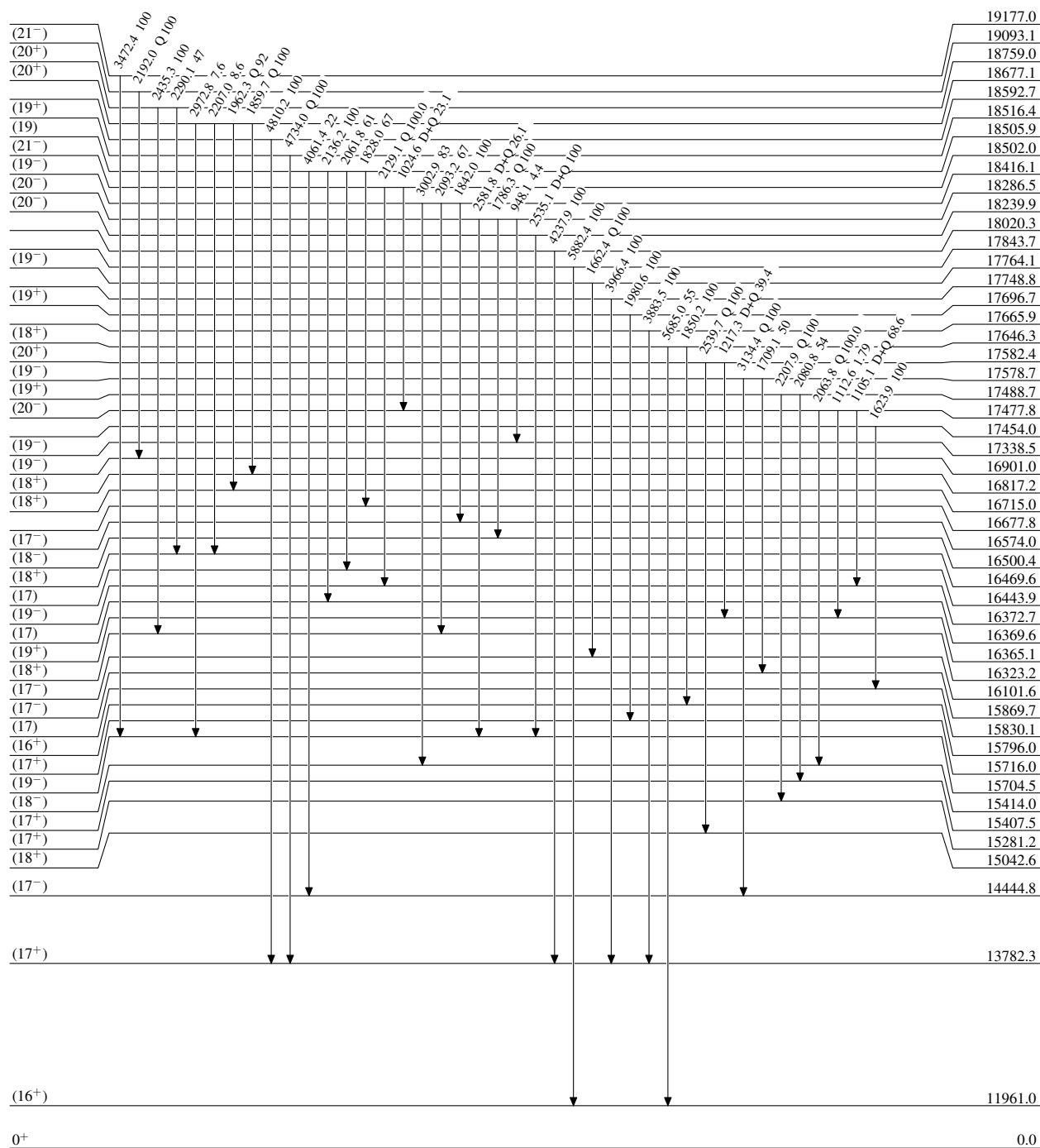
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

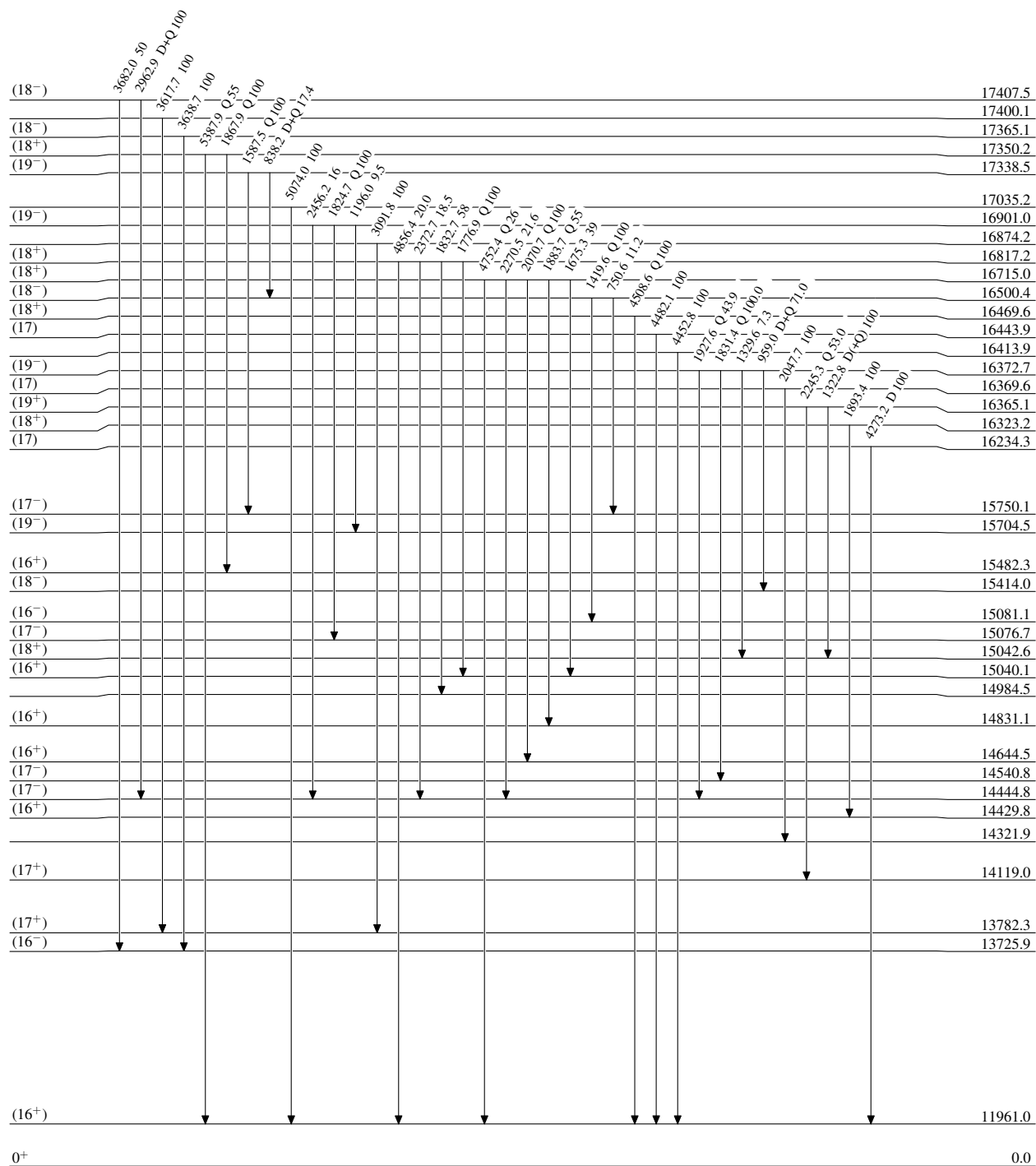
Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, GammasLevel Scheme (continued)

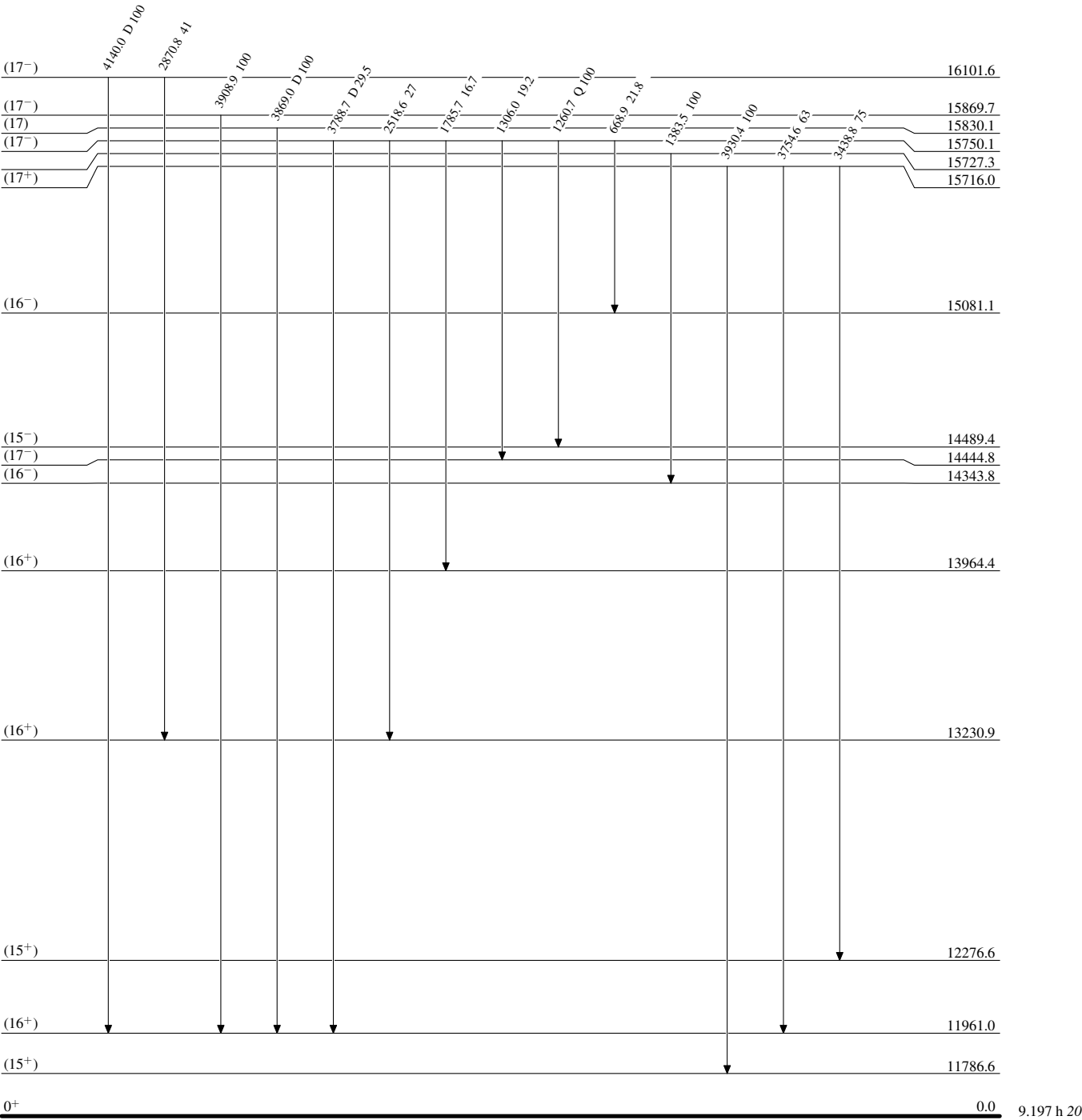
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

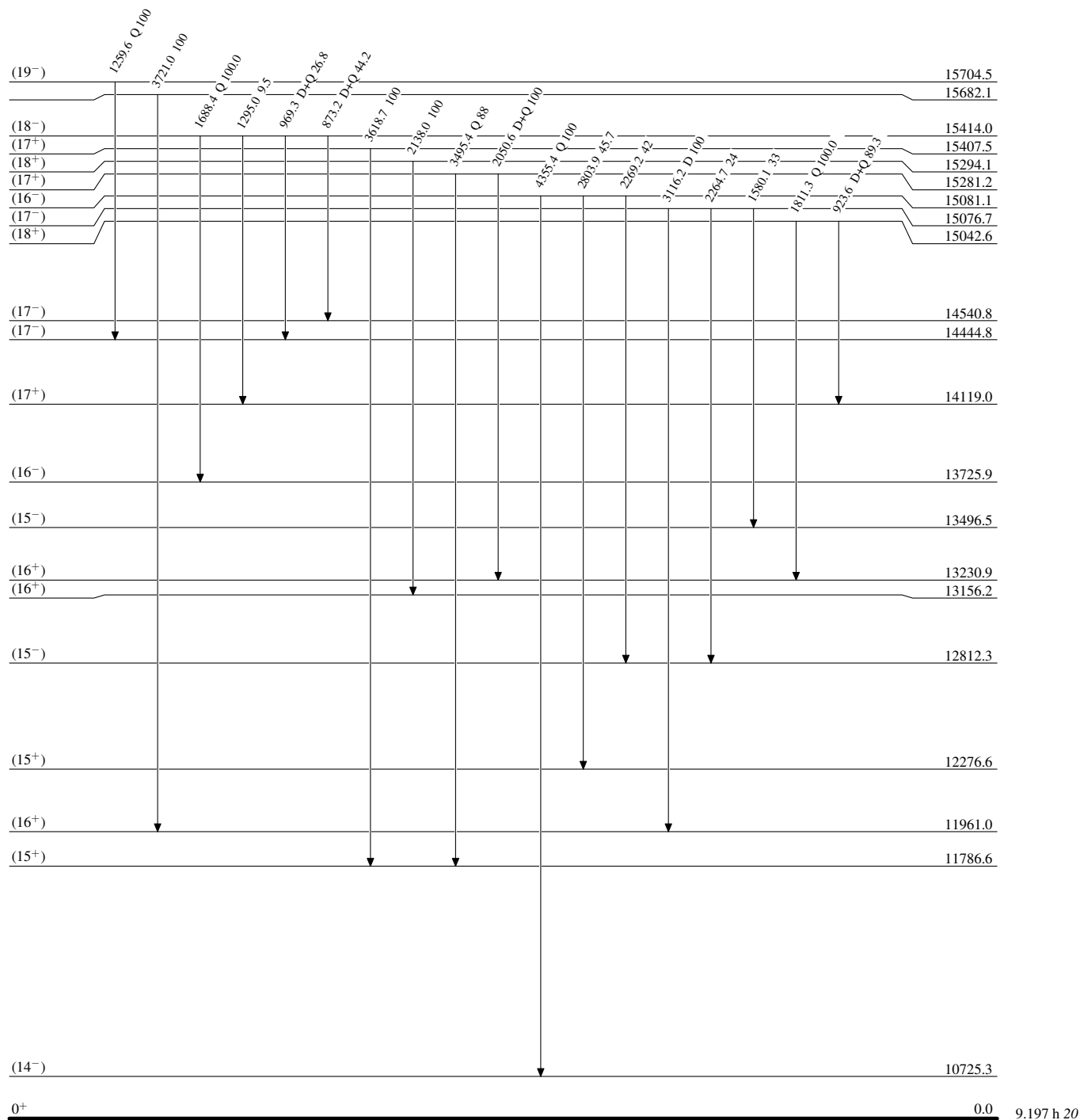
Level Scheme (continued)

Intensities: Relative photon branching from each level



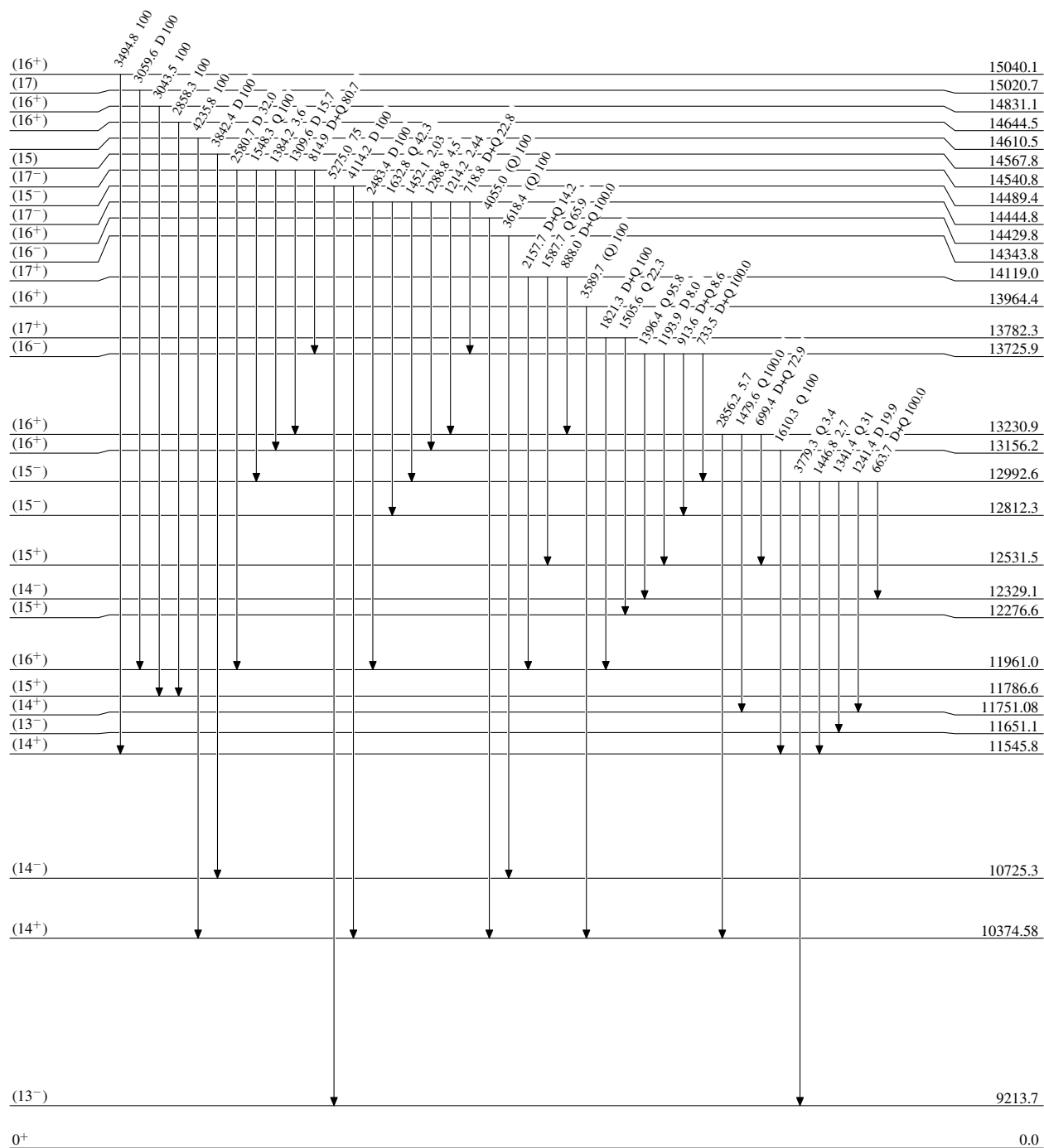
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, GammasLevel Scheme (continued)

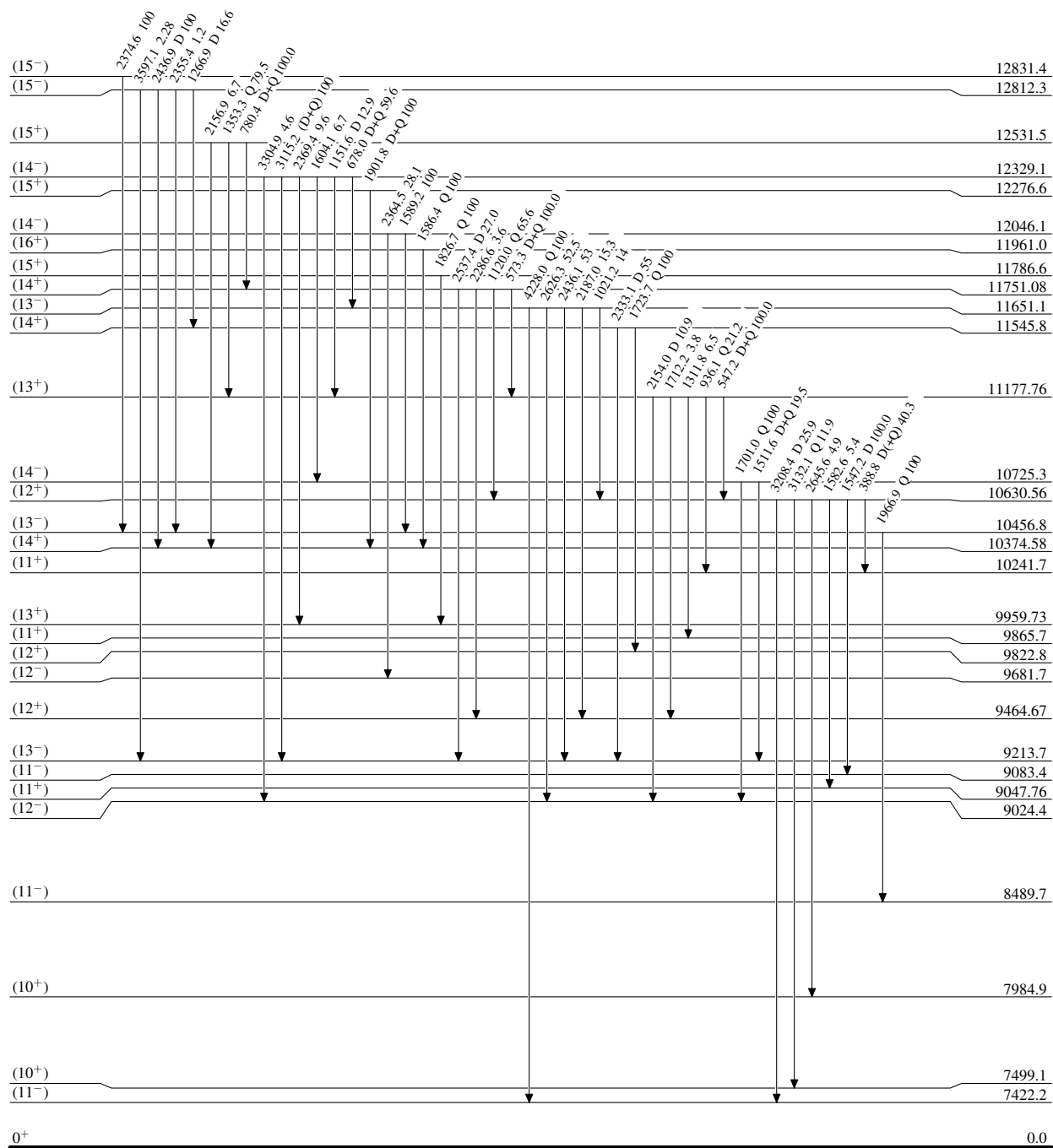
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

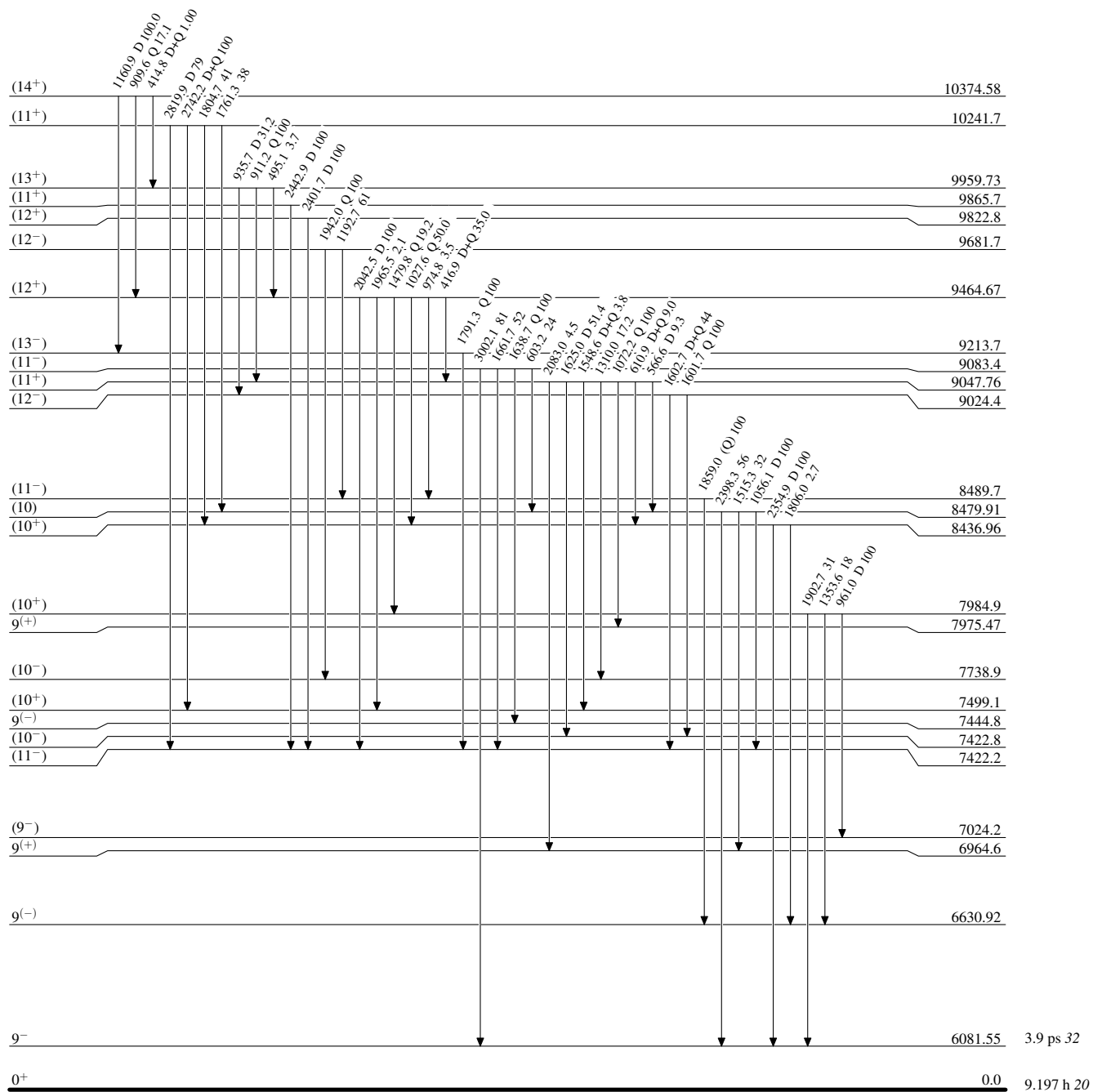
Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

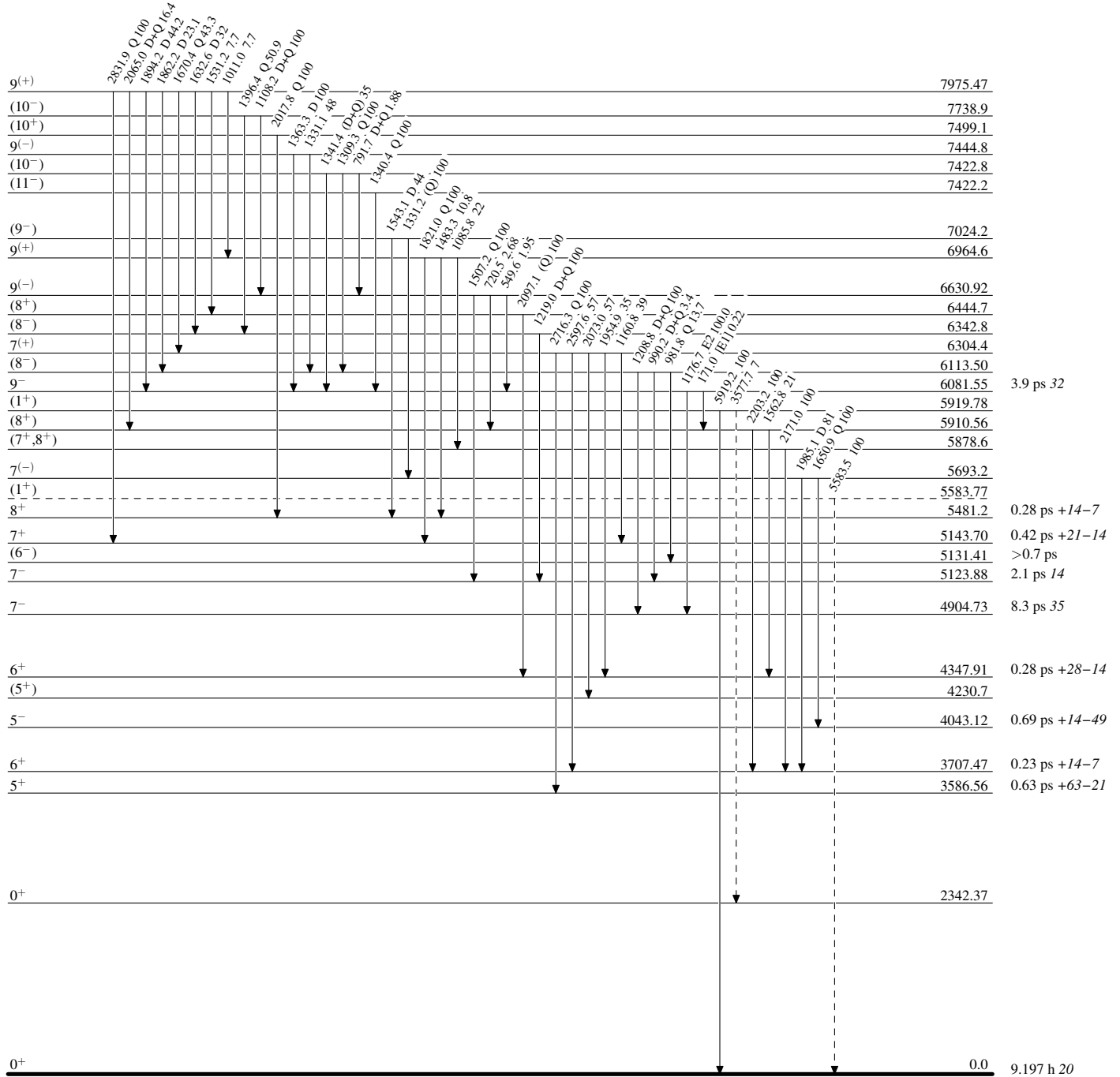


Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

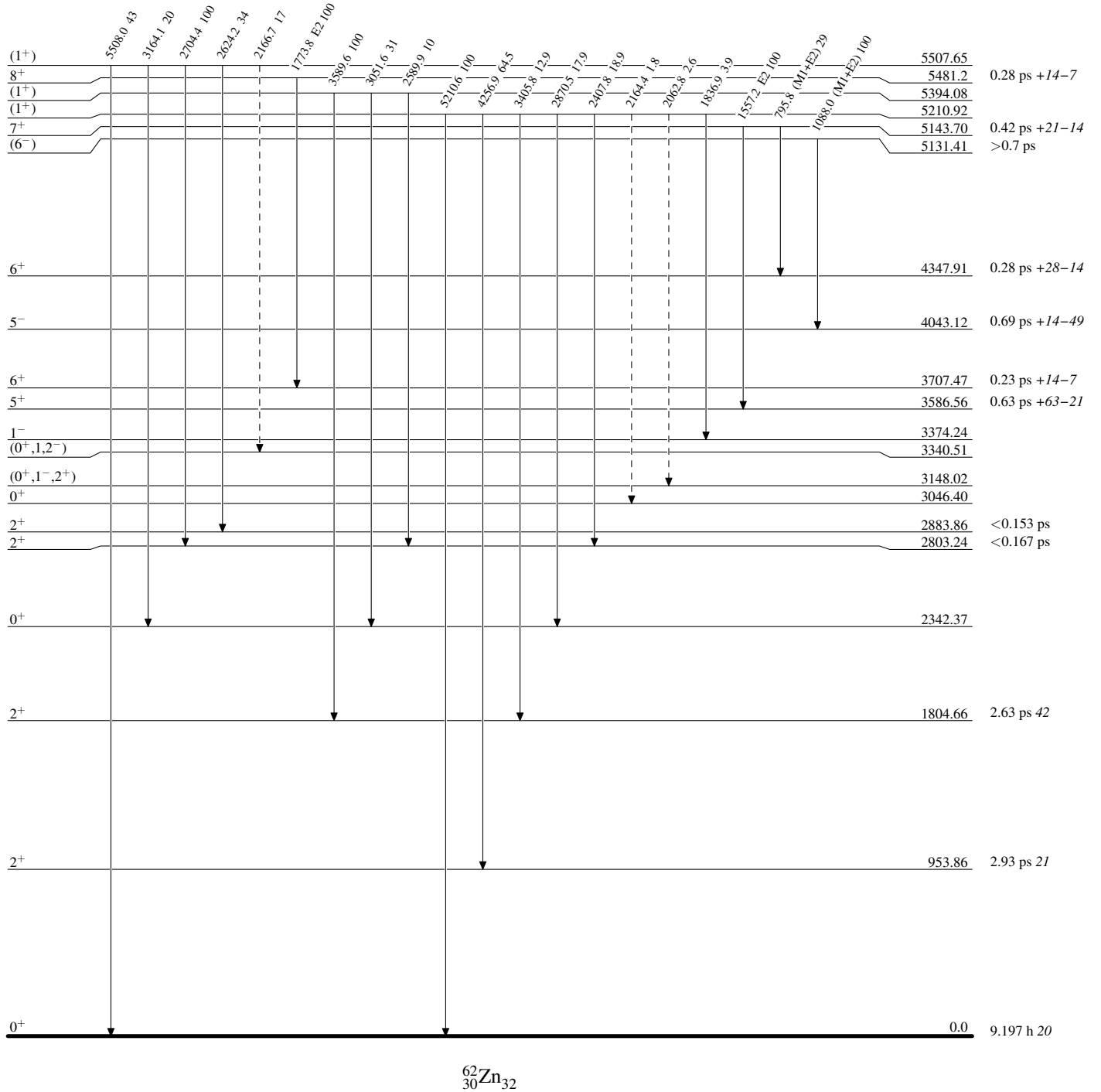
-----► γ Decay (Uncertain)

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

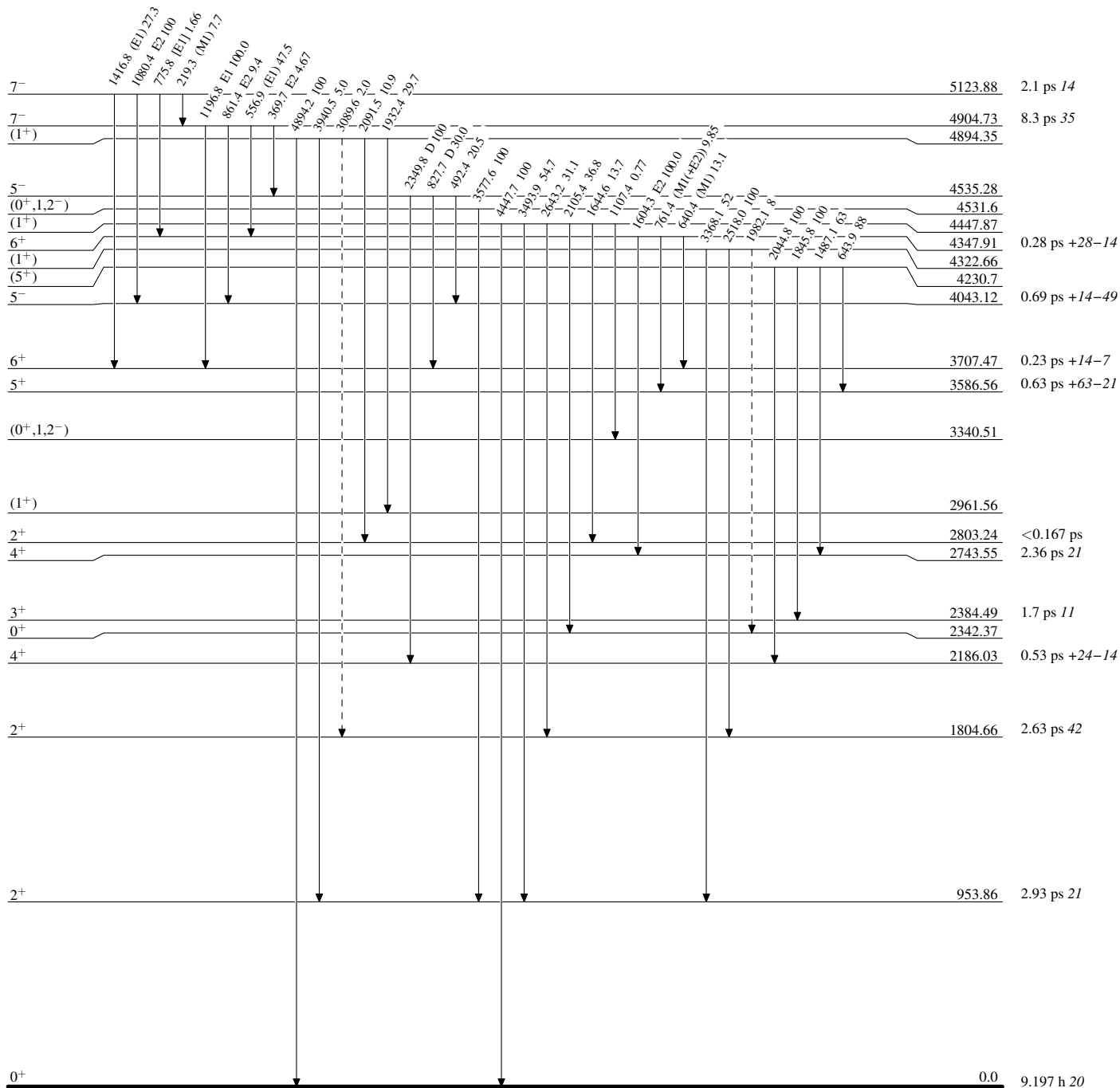
-----► γ Decay (Uncertain) $^{62}_{30}\text{Zn}_{32}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

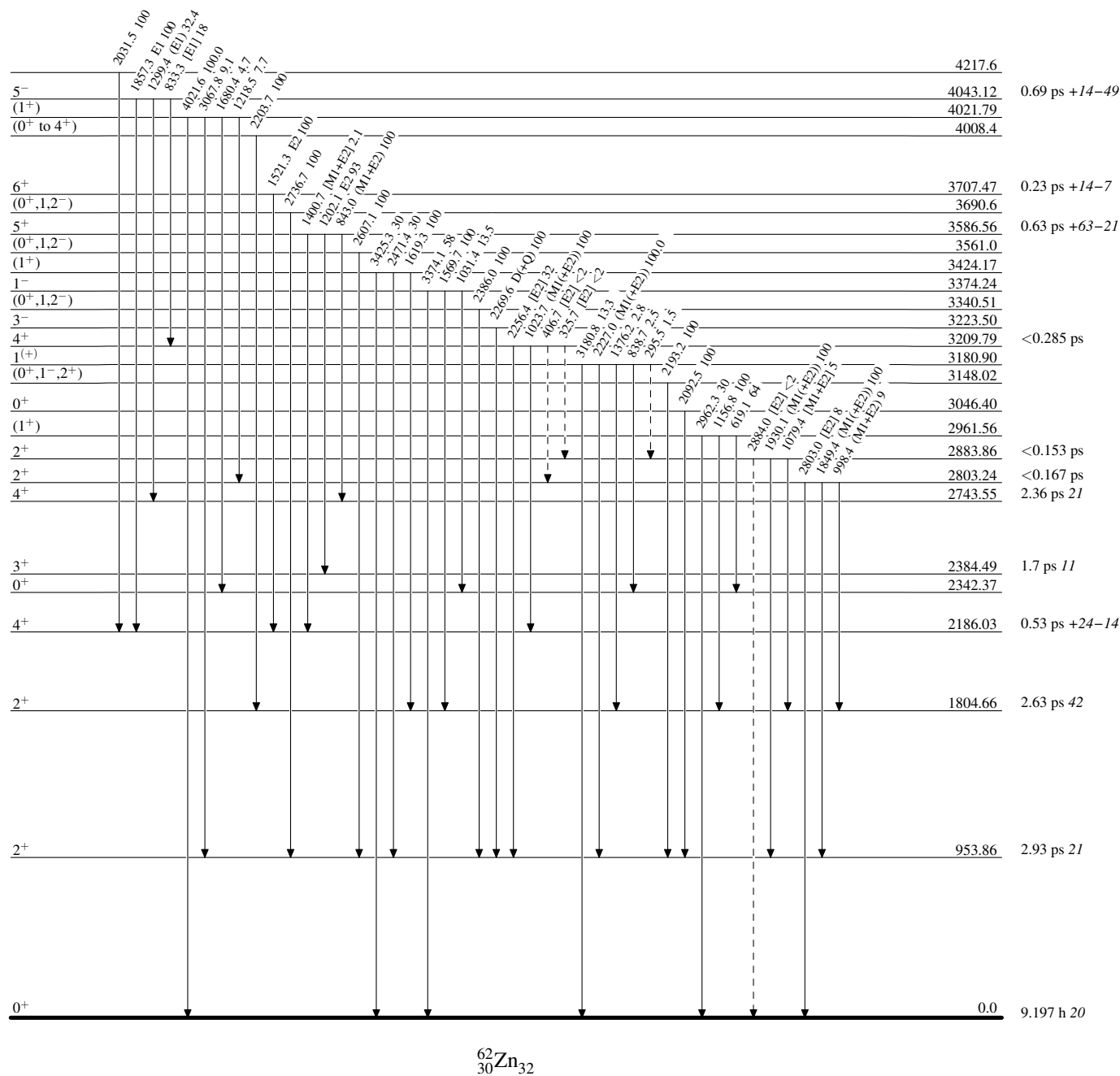
-----► γ Decay (Uncertain)


Adopted Levels, Gammas

Legend

Level Scheme (continued)

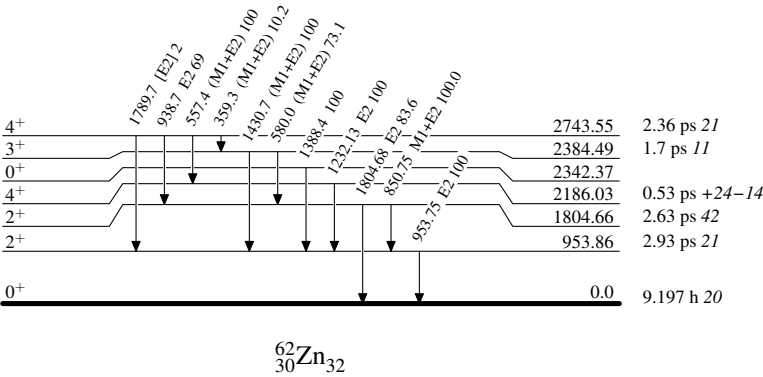
Intensities: Relative photon branching from each level

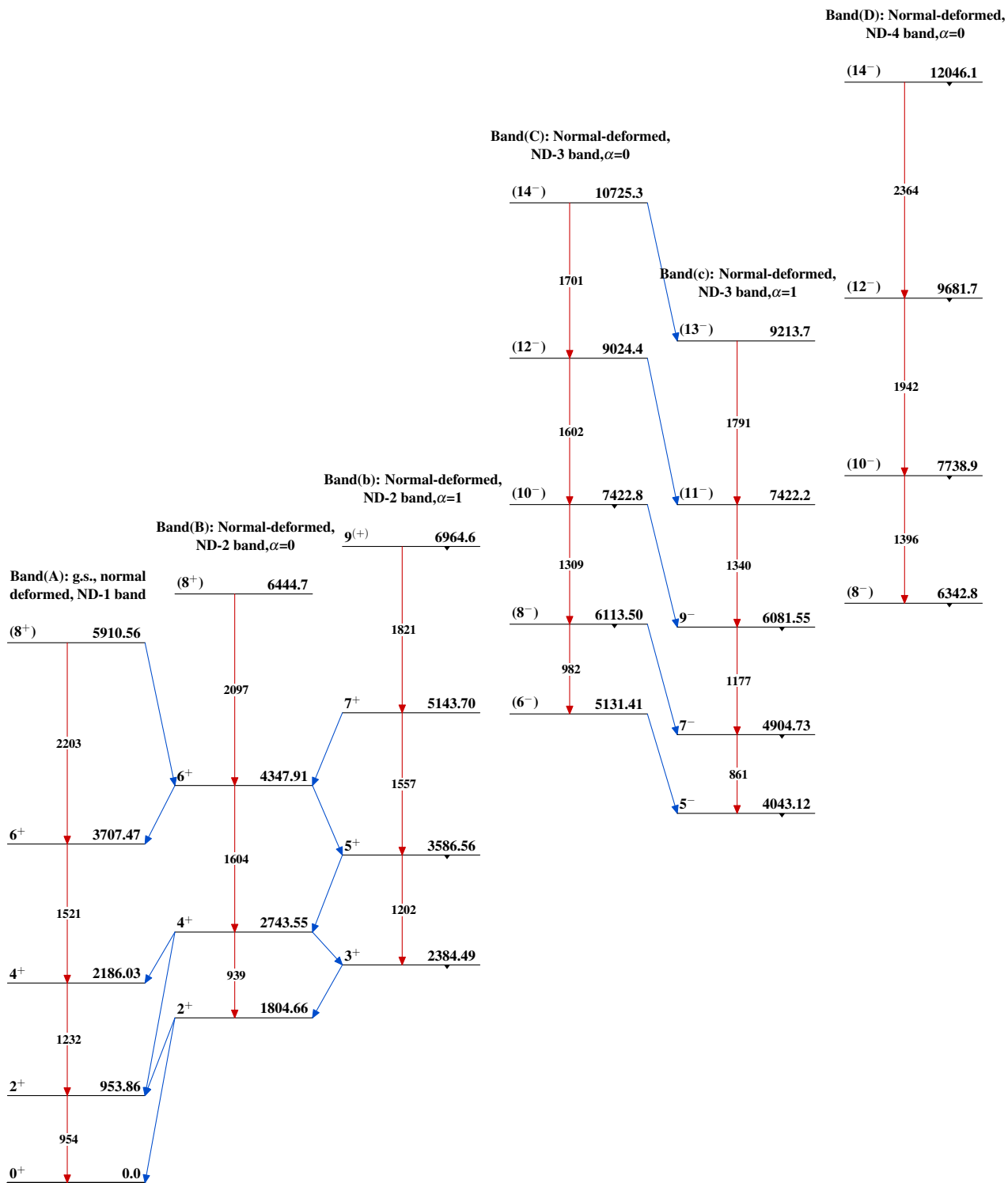
-----► γ Decay (Uncertain)

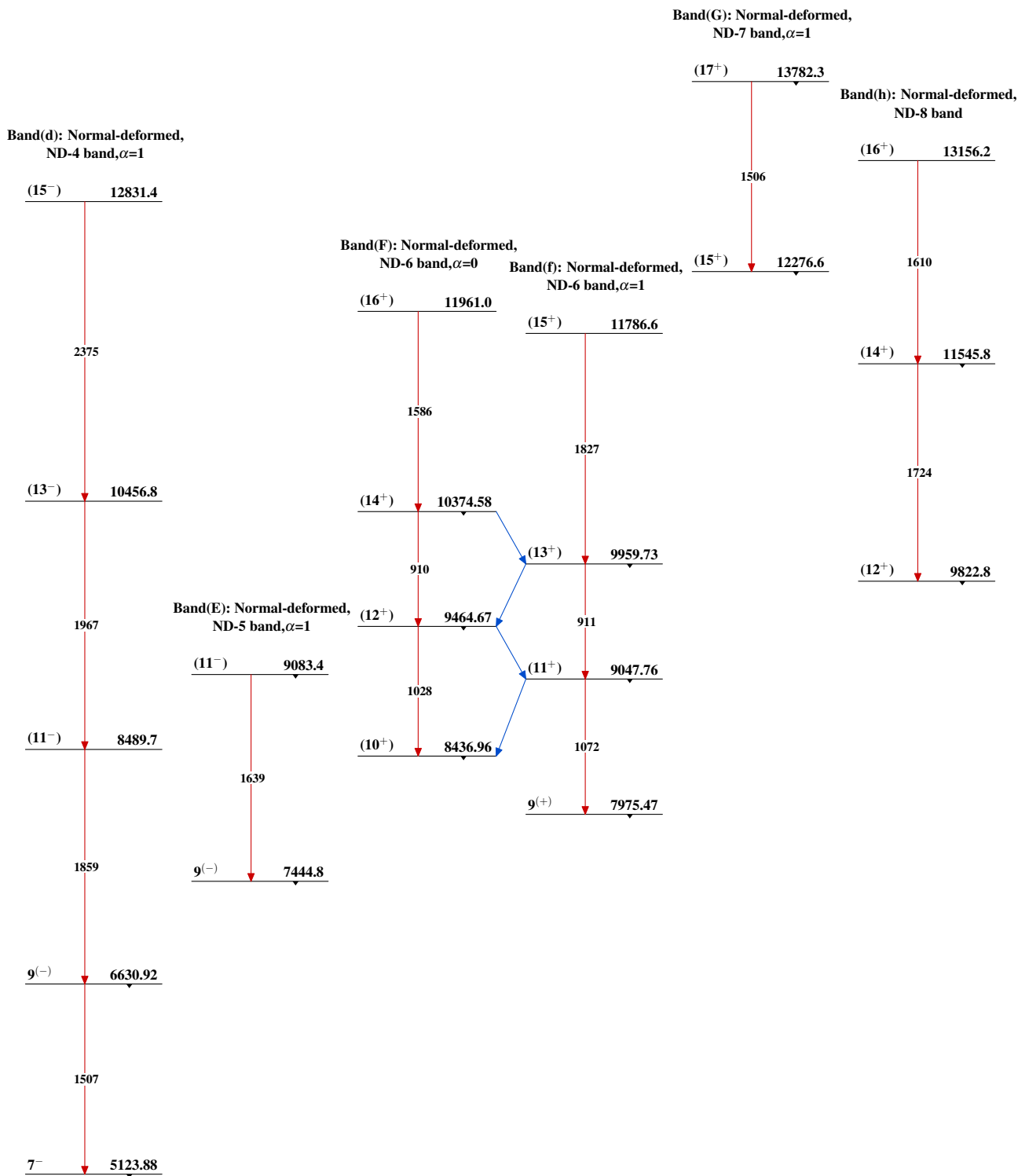
Adopted Levels, Gammas

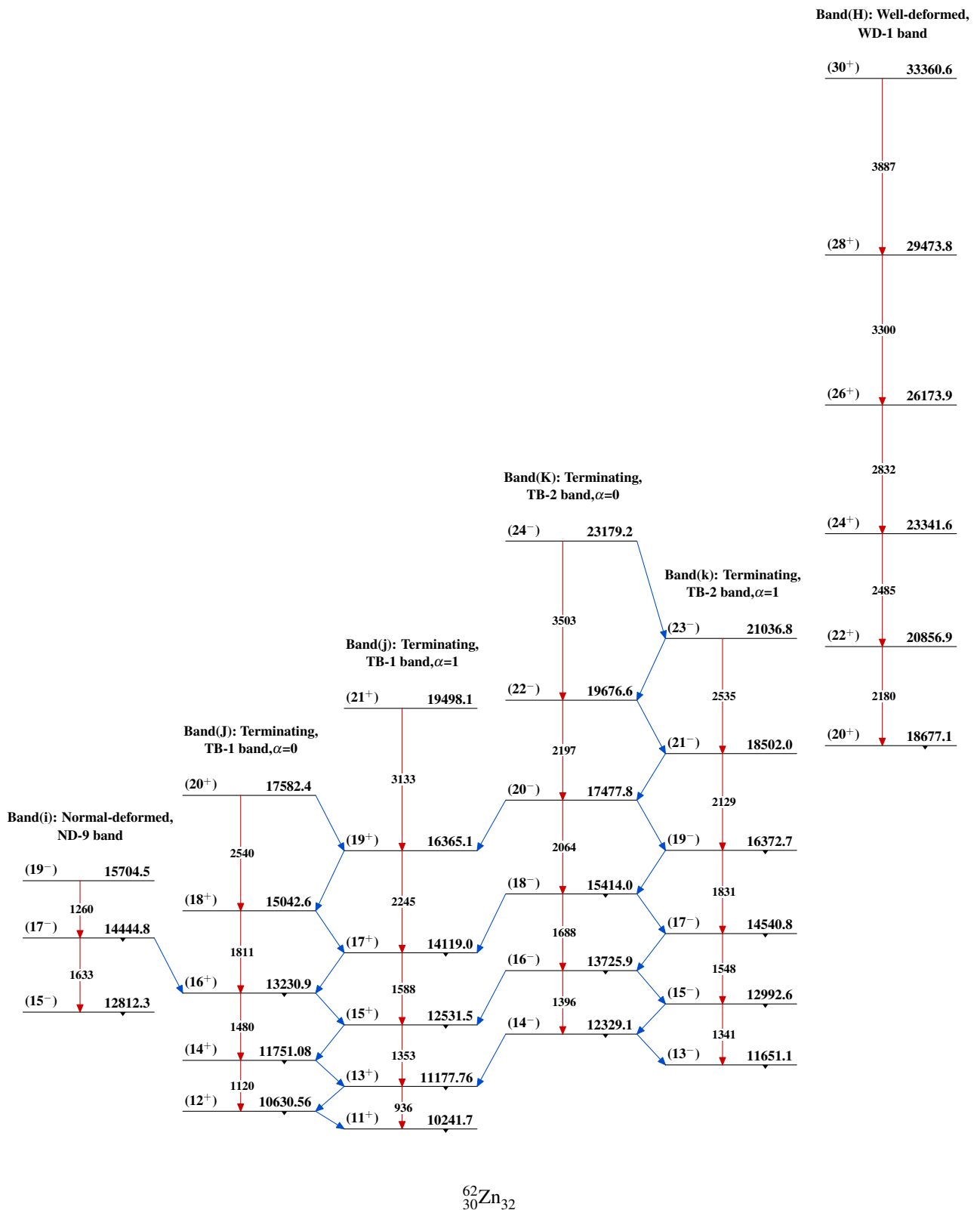
Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)

Band(L): Well-deformed,
WD-2 band, $\alpha=0$

(28⁻) 30508.0

(26⁻) 26322.9

(24⁻) 23071.5

(22⁻) 20441.8

(20⁻) 18286.5

(18⁻) 16500.4

(16⁻) 15081.1

Band(I): Well-deformed,
WD-2 band, $\alpha=1$

(27⁻) 28230.0

(25⁻) 24607.3

(23⁻) 21682.6

(21⁻) 19305.1

(19⁻) 17338.5

(17⁻) 15750.1

(15⁻) 14489.4

Band(I): Well-deformed,
WD-3 band

(27⁻) 28555.2

(25⁻) 24725.6

(23⁻) 21686.9

(21⁻) 19093.1

(19⁻) 16901.0

(17⁻) 15076.7

(15⁻) 13496.5

Band(N): Well-deformed,
WD-6 band

(27⁻) 28745.4

(25⁻) 25162.1

(23⁻) 22243.6

(21⁻) 19777.7

(19⁻) 17764.1

(17⁻) 16101.6

Band(O): Well-deformed,
WD-8 band

(26⁺) 27764

(24⁺) 24692.1

(22⁺) 22029.7

(20⁺) 19702.7

(18⁺) 17646.3

(16⁺) 15796.0

Band(M): Well-deformed,
WD-4 band

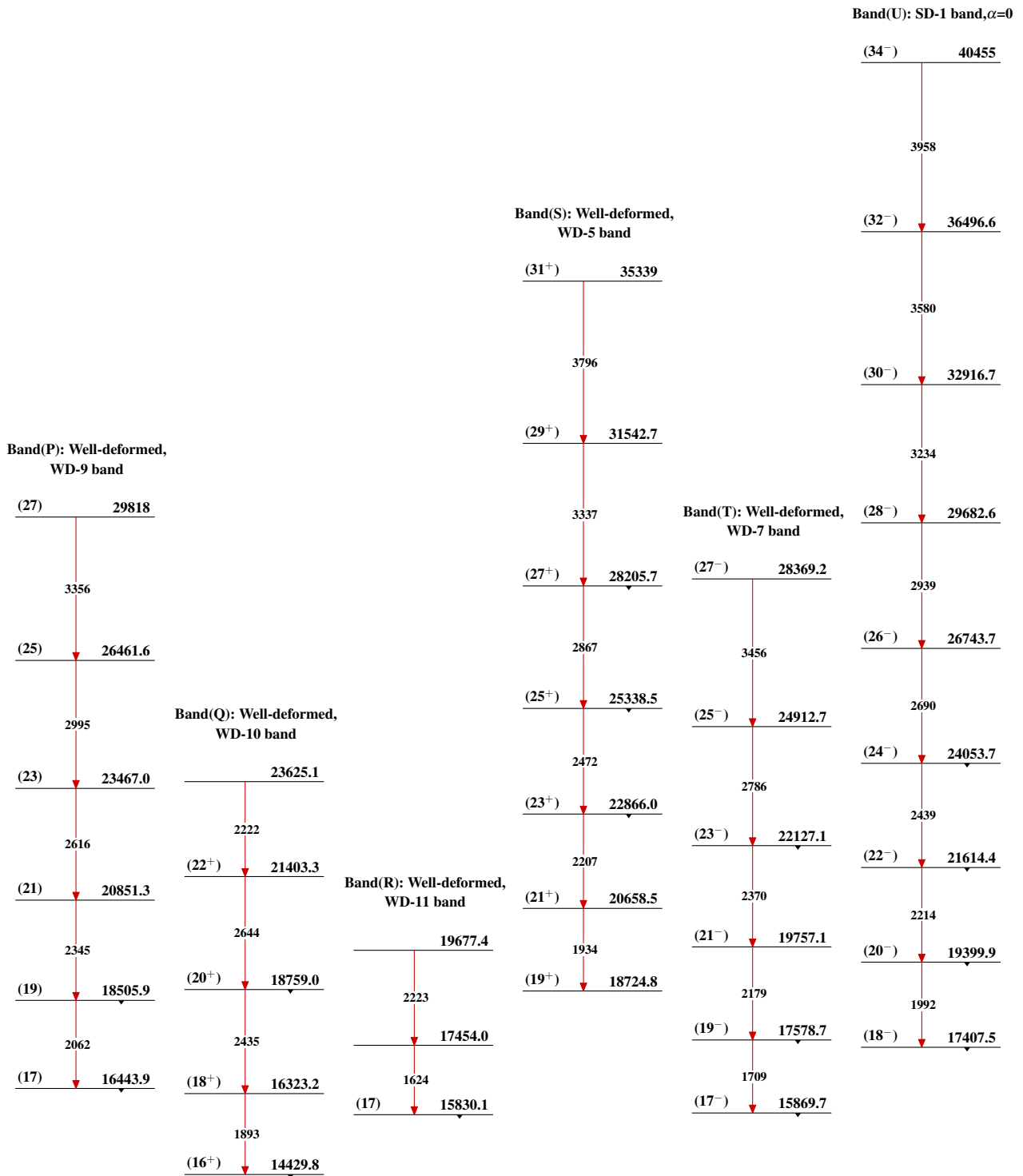
(25⁺) 25145.2

(23⁺) 22567.8

(21⁺) 20432.3

(19⁺) 18516.4

$^{62}_{30}\text{Zn}_{32}$

Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)Band(V): SD-2 band, $\alpha=1$ (35⁻) 42519

4153

(33⁻) 38366

3765

(31⁻) 34600.7

3388

(29⁻) 31213.0

3051

(27⁻) 28162.7

2816

(25⁻) 25347.1

2565

(23⁻) 22782.5

2309

(21⁻) 20473.5

2058

(19⁻) 18416.1

1842

(17⁻) 16574.0

Band(X): SD-4 band

(32) 36897

3438

(30) 33458

3088

(28) 30370

2652

(26) 27718

2315

(24) 25402.1

2025

(22) 23376.6

1552

21824.8

Band(Y): SD-5 band

(29⁻) 31397.8

3153

(27⁻) 28244.8

2766

(25⁻) 25478.9

2450

(23⁻) 23028.6Band(W): SD-3 band
Configurations=[22,24](30⁺) 33798.0

3363

(28⁺) 30434.7

3118

(26⁺) 27316.9

2848

(24⁺) 24468.3

2616

(22⁺) 21851.9

2375

(20⁺) 19477.1

2127

(18⁺) 17350.2

1868

(16⁺) 15482.3 $^{62}_{30}\text{Zn}_{32}$